

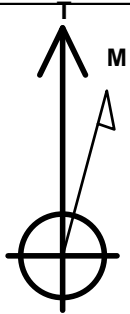
# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Tarin 32W-434**

Surface Location: Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4774.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1339704.50 3197253.09 40.263730 -104.793170  
 RKB - 15' WELL @ 4789.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1033'FSL & 355'FEL, Sec.32	1.0	0.0	0.0	Point
BHL 2002'FSL & 2151'FEL, Sec.31	7295.0	931.6	-7096.8	Point



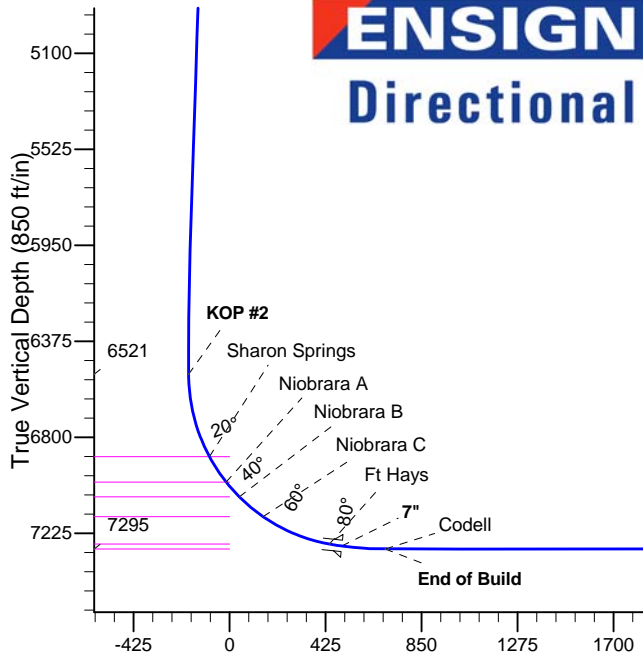
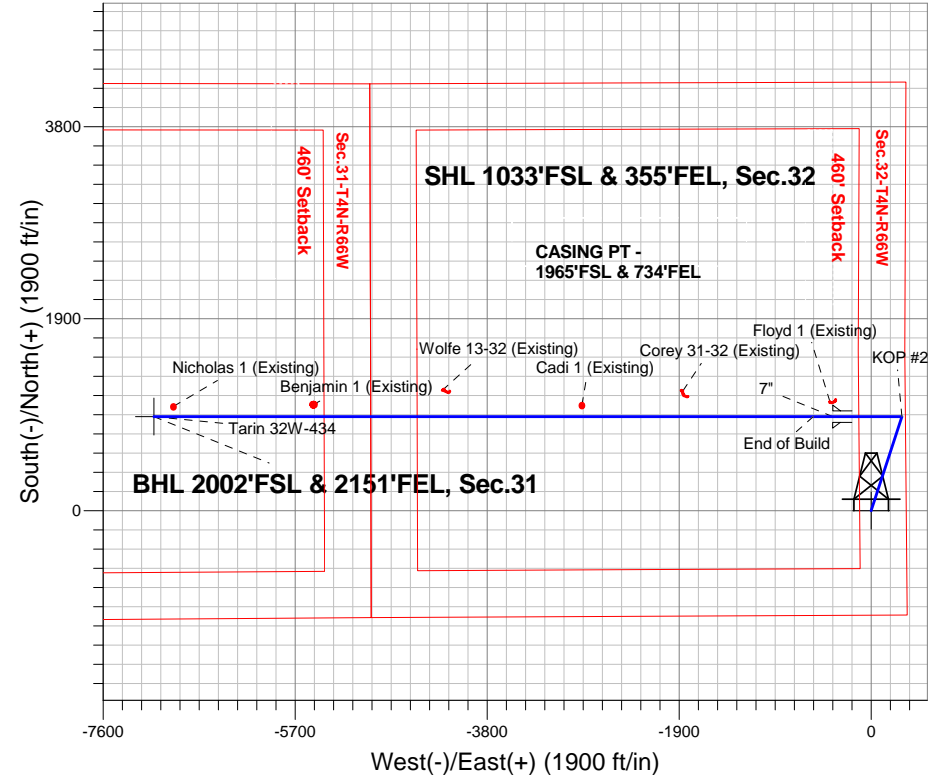
Azimuths to True North  
 Magnetic North: 8.48°

Magnetic Field  
 Strength: 52756.6srT  
 Dip Angle: 66.84°  
 Date: 4/23/2014  
 Model: IGRF2010

Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 Tarin 32W-434  
 Plan #1 (4-14-14)  
 9:59, April 25 2014

## ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP #1
6521.3	6605.4	KOP #2
7295.0	7919.4	End of Build



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	905.9	10.12	18.13	903.3	42.3	13.9	2.00	18.13	-8.2	
4	5978.2	10.12	18.13	5896.7	889.3	291.1	0.00	0.00	-172.9	
5	6484.1	0.00	0.00	6400.0	931.6	305.0	2.00	180.00	-181.2	
6	6605.4	0.00	0.00	6521.2	931.6	305.0	0.00	0.00	-181.2	
7	7725.4	84.00	270.00	7281.0	931.6	-379.1	7.50	270.00	497.1	
8	7799.4	84.00	270.00	7288.7	931.6	-452.7	0.00	0.00	570.1	
9	7919.4	90.00	270.00	7295.0	931.6	-572.5	5.00	0.00	688.8	
10	14443.7	90.00	270.00	7295.0	931.6	-7096.8	0.00	0.00	7157.7	BHL 2002'FSL & 2151'FEL, Sec.31

BHL 2002'FSL & 2151'FEL, Sec.31

Vertical Section at 277.48° (850 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

**Tarin 32X-HZ Pad Sec.32-T4N-R66W**

**Tarin 32W-434**

**Wellbore #1**

**Plan: Plan #1 (4-14-14)**

## **Standard Planning Report**

**25 April, 2014**

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

<b>Project</b>	SEC.32-T4N-R66W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Tarin 32X-HZ Pad Sec.32-T4N-R66W				
Site Position:		Northing:	1,339,733.63ft	Latitude:	40.263810
From:	Lat/Long	Easting:	3,197,250.06ft	Longitude:	-104.793180
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.46 °

Well	Tarin 32W-434					
Well Position	+N/-S	-29.2 ft	Northing:	1,339,704.50 ft	Latitude:	40.263730
	+E/-W	2.8 ft	Easting:	3,197,253.09 ft	Longitude:	-104.793170
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,774.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/23/2014	8.48	66.84	52,757

<b>Design</b>	Plan #1 (4-14-14)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	277.48

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
905.9	10.12	18.13	903.3	42.3	13.9	2.00	2.00	0.00	18.13	
5,978.2	10.12	18.13	5,896.7	889.3	291.1	0.00	0.00	0.00	0.00	
6,484.1	0.00	0.00	6,400.0	931.6	305.0	2.00	-2.00	0.00	180.00	
6,605.4	0.00	0.00	6,521.2	931.6	305.0	0.00	0.00	0.00	0.00	
7,725.4	84.00	270.00	7,281.0	931.6	-379.1	7.50	7.50	0.00	270.00	
7,799.4	84.00	270.00	7,288.7	931.6	-452.7	0.00	0.00	0.00	0.00	
7,919.4	90.00	270.00	7,295.0	931.6	-572.5	5.00	5.00	0.00	0.00	
14,443.7	90.00	270.00	7,295.0	931.6	-7,096.8	0.00	0.00	0.00	0.00	BHL 2002'FSL & 21

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SHL 1033'FSL &amp; 355'FEL, Sec.32</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
500.0	2.00	18.13	500.0	1.7	0.5	-0.3	2.00	2.00	0.00
600.0	4.00	18.13	599.8	6.6	2.2	-1.3	2.00	2.00	0.00
700.0	6.00	18.13	699.5	14.9	4.9	-2.9	2.00	2.00	0.00
800.0	8.00	18.13	798.7	26.5	8.7	-5.2	2.00	2.00	0.00
900.0	10.00	18.13	897.5	41.4	13.5	-8.0	2.00	2.00	0.00
905.9	10.12	18.13	903.3	42.3	13.9	-8.2	2.00	2.00	0.00
1,000.0	10.12	18.13	995.9	58.1	19.0	-11.3	0.00	0.00	0.00
1,100.0	10.12	18.13	1,094.4	74.7	24.5	-14.5	0.00	0.00	0.00
1,200.0	10.12	18.13	1,192.8	91.4	29.9	-17.8	0.00	0.00	0.00
1,300.0	10.12	18.13	1,291.2	108.1	35.4	-21.0	0.00	0.00	0.00
1,400.0	10.12	18.13	1,389.7	124.8	40.9	-24.3	0.00	0.00	0.00
1,500.0	10.12	18.13	1,488.1	141.5	46.3	-27.5	0.00	0.00	0.00
1,600.0	10.12	18.13	1,586.6	158.2	51.8	-30.8	0.00	0.00	0.00
1,700.0	10.12	18.13	1,685.0	174.9	57.3	-34.0	0.00	0.00	0.00
1,800.0	10.12	18.13	1,783.5	191.6	62.7	-37.3	0.00	0.00	0.00
1,900.0	10.12	18.13	1,881.9	208.3	68.2	-40.5	0.00	0.00	0.00
2,000.0	10.12	18.13	1,980.4	225.0	73.7	-43.8	0.00	0.00	0.00
2,100.0	10.12	18.13	2,078.8	241.7	79.1	-47.0	0.00	0.00	0.00
2,200.0	10.12	18.13	2,177.2	258.4	84.6	-50.2	0.00	0.00	0.00
2,300.0	10.12	18.13	2,275.7	275.1	90.1	-53.5	0.00	0.00	0.00
2,400.0	10.12	18.13	2,374.1	291.8	95.5	-56.7	0.00	0.00	0.00
2,500.0	10.12	18.13	2,472.6	308.5	101.0	-60.0	0.00	0.00	0.00
2,600.0	10.12	18.13	2,571.0	325.2	106.5	-63.2	0.00	0.00	0.00
2,700.0	10.12	18.13	2,669.5	341.9	111.9	-66.5	0.00	0.00	0.00
2,800.0	10.12	18.13	2,767.9	358.6	117.4	-69.7	0.00	0.00	0.00
2,900.0	10.12	18.13	2,866.4	375.3	122.9	-73.0	0.00	0.00	0.00
3,000.0	10.12	18.13	2,964.8	392.0	128.3	-76.2	0.00	0.00	0.00
3,100.0	10.12	18.13	3,063.2	408.7	133.8	-79.5	0.00	0.00	0.00
3,200.0	10.12	18.13	3,161.7	425.4	139.3	-82.7	0.00	0.00	0.00
3,300.0	10.12	18.13	3,260.1	442.1	144.7	-86.0	0.00	0.00	0.00
3,400.0	10.12	18.13	3,358.6	458.8	150.2	-89.2	0.00	0.00	0.00
3,500.0	10.12	18.13	3,457.0	475.5	155.7	-92.5	0.00	0.00	0.00
3,600.0	10.12	18.13	3,555.5	492.2	161.1	-95.7	0.00	0.00	0.00
3,700.0	10.12	18.13	3,653.9	508.9	166.6	-99.0	0.00	0.00	0.00
3,757.0	10.12	18.13	3,710.0	518.4	169.7	-100.8	0.00	0.00	0.00
<b>Parkman</b>									
3,800.0	10.12	18.13	3,752.4	525.6	172.1	-102.2	0.00	0.00	0.00
3,900.0	10.12	18.13	3,850.8	542.3	177.5	-105.4	0.00	0.00	0.00
4,000.0	10.12	18.13	3,949.2	559.0	183.0	-108.7	0.00	0.00	0.00
4,100.0	10.12	18.13	4,047.7	575.7	188.5	-111.9	0.00	0.00	0.00
4,200.0	10.12	18.13	4,146.1	592.3	193.9	-115.2	0.00	0.00	0.00
4,300.0	10.12	18.13	4,244.6	609.0	199.4	-118.4	0.00	0.00	0.00
4,400.0	10.12	18.13	4,343.0	625.7	204.9	-121.7	0.00	0.00	0.00
4,447.7	10.12	18.13	4,390.0	633.7	207.5	-123.2	0.00	0.00	0.00
<b>Sussex</b>									

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	10.12	18.13	4,441.5	642.4	210.3	-124.9	0.00	0.00	0.00
4,600.0	10.12	18.13	4,539.9	659.1	215.8	-128.2	0.00	0.00	0.00
4,700.0	10.12	18.13	4,638.4	675.8	221.3	-131.4	0.00	0.00	0.00
4,800.0	10.12	18.13	4,736.8	692.5	226.7	-134.7	0.00	0.00	0.00
4,864.2	10.12	18.13	4,800.0	703.2	230.2	-136.7	0.00	0.00	0.00
<b>Shannon</b>									
4,900.0	10.12	18.13	4,835.2	709.2	232.2	-137.9	0.00	0.00	0.00
5,000.0	10.12	18.13	4,933.7	725.9	237.7	-141.2	0.00	0.00	0.00
5,100.0	10.12	18.13	5,032.1	742.6	243.1	-144.4	0.00	0.00	0.00
5,200.0	10.12	18.13	5,130.6	759.3	248.6	-147.7	0.00	0.00	0.00
5,300.0	10.12	18.13	5,229.0	776.0	254.1	-150.9	0.00	0.00	0.00
5,400.0	10.12	18.13	5,327.5	792.7	259.5	-154.1	0.00	0.00	0.00
5,500.0	10.12	18.13	5,425.9	809.4	265.0	-157.4	0.00	0.00	0.00
5,600.0	10.12	18.13	5,524.4	826.1	270.5	-160.6	0.00	0.00	0.00
5,700.0	10.12	18.13	5,622.8	842.8	275.9	-163.9	0.00	0.00	0.00
5,800.0	10.12	18.13	5,721.3	859.5	281.4	-167.1	0.00	0.00	0.00
5,900.0	10.12	18.13	5,819.7	876.2	286.9	-170.4	0.00	0.00	0.00
5,978.2	10.12	18.13	5,896.7	889.3	291.1	-172.9	0.00	0.00	0.00
6,000.0	9.68	18.13	5,918.2	892.8	292.3	-173.6	2.00	-2.00	0.00
6,100.0	7.68	18.13	6,017.0	907.2	297.0	-176.4	2.00	-2.00	0.00
6,200.0	5.68	18.13	6,116.3	918.2	300.6	-178.6	2.00	-2.00	0.00
6,300.0	3.68	18.13	6,216.0	926.0	303.2	-180.1	2.00	-2.00	0.00
6,400.0	1.68	18.13	6,315.9	930.4	304.6	-180.9	2.00	-2.00	0.00
6,484.1	0.00	0.00	6,400.0	931.6	305.0	-181.2	2.00	-2.00	0.00
6,500.0	0.00	0.00	6,415.9	931.6	305.0	-181.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,515.9	931.6	305.0	-181.2	0.00	0.00	0.00
6,605.4	0.00	0.00	6,521.3	931.6	305.0	-181.2	0.00	0.00	0.00
<b>KOP #2</b>									
6,700.0	7.10	270.00	6,615.6	931.6	299.1	-175.4	7.50	7.50	0.00
6,800.0	14.60	270.00	6,713.8	931.6	280.3	-156.7	7.50	7.50	0.00
6,900.0	22.10	270.00	6,808.6	931.6	248.9	-125.5	7.50	7.50	0.00
6,985.7	28.52	270.00	6,886.0	931.6	212.3	-89.2	7.50	7.50	0.00
<b>Sharon Springs</b>									
7,000.0	29.60	270.00	6,898.5	931.6	205.3	-82.3	7.50	7.50	0.00
7,100.0	37.10	270.00	6,982.0	931.6	150.4	-27.9	7.50	7.50	0.00
7,120.2	38.62	270.00	6,998.0	931.6	138.0	-15.5	7.50	7.50	0.00
<b>Niobrara A</b>									
7,200.0	44.60	270.00	7,057.6	931.6	85.0	36.9	7.50	7.50	0.00
7,209.0	45.27	270.00	7,064.0	931.6	78.7	43.3	7.50	7.50	0.00
<b>Niobrara B</b>									
7,300.0	52.10	270.00	7,124.0	931.6	10.4	111.0	7.50	7.50	0.00
7,345.7	55.52	270.00	7,151.0	931.6	-26.5	147.5	7.50	7.50	0.00
<b>Niobrara C</b>									
7,400.0	59.60	270.00	7,180.1	931.6	-72.3	193.0	7.50	7.50	0.00
7,500.0	67.10	270.00	7,224.9	931.6	-161.6	281.5	7.50	7.50	0.00
7,600.0	74.60	270.00	7,257.7	931.6	-256.0	375.1	7.50	7.50	0.00
7,668.8	79.76	270.00	7,273.0	931.6	-323.1	441.6	7.50	7.50	0.00
<b>Ft Hays</b>									
7,700.0	82.10	270.00	7,277.9	931.6	-353.9	472.1	7.50	7.50	0.00
7,725.4	84.00	270.00	7,281.0	931.6	-379.1	497.1	7.49	7.49	0.00
<b>7"</b>									
7,799.4	84.00	270.00	7,288.7	931.6	-452.7	570.1	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,800.0	84.03	270.00	7,288.8	931.6	-453.3	570.7	5.00	5.00	0.00
7,900.0	89.03	270.00	7,294.8	931.6	-553.1	669.6	5.00	5.00	0.00
7,919.4	90.00	270.00	7,295.0	931.6	-572.5	688.8	5.00	5.00	0.00
<b>End of Build - Codell</b>									
8,000.0	90.00	270.00	7,295.0	931.6	-653.1	768.8	0.00	0.00	0.00
8,100.0	90.00	270.00	7,295.0	931.6	-753.1	867.9	0.00	0.00	0.00
8,200.0	90.00	270.00	7,295.0	931.6	-853.1	967.1	0.00	0.00	0.00
8,300.0	90.00	270.00	7,295.0	931.6	-953.1	1,066.2	0.00	0.00	0.00
8,400.0	90.00	270.00	7,295.0	931.6	-1,053.1	1,165.4	0.00	0.00	0.00
8,500.0	90.00	270.00	7,295.0	931.6	-1,153.1	1,264.5	0.00	0.00	0.00
8,600.0	90.00	270.00	7,295.0	931.6	-1,253.1	1,363.7	0.00	0.00	0.00
8,700.0	90.00	270.00	7,295.0	931.6	-1,353.1	1,462.8	0.00	0.00	0.00
8,800.0	90.00	270.00	7,295.0	931.6	-1,453.1	1,562.0	0.00	0.00	0.00
8,900.0	90.00	270.00	7,295.0	931.6	-1,553.1	1,661.1	0.00	0.00	0.00
9,000.0	90.00	270.00	7,295.0	931.6	-1,653.1	1,760.3	0.00	0.00	0.00
9,100.0	90.00	270.00	7,295.0	931.6	-1,753.1	1,859.4	0.00	0.00	0.00
9,200.0	90.00	270.00	7,295.0	931.6	-1,853.1	1,958.6	0.00	0.00	0.00
9,300.0	90.00	270.00	7,295.0	931.6	-1,953.1	2,057.7	0.00	0.00	0.00
9,400.0	90.00	270.00	7,295.0	931.6	-2,053.1	2,156.9	0.00	0.00	0.00
9,500.0	90.00	270.00	7,295.0	931.6	-2,153.1	2,256.0	0.00	0.00	0.00
9,600.0	90.00	270.00	7,295.0	931.6	-2,253.1	2,355.2	0.00	0.00	0.00
9,700.0	90.00	270.00	7,295.0	931.6	-2,353.1	2,454.3	0.00	0.00	0.00
9,800.0	90.00	270.00	7,295.0	931.6	-2,453.1	2,553.5	0.00	0.00	0.00
9,900.0	90.00	270.00	7,295.0	931.6	-2,553.1	2,652.6	0.00	0.00	0.00
10,000.0	90.00	270.00	7,295.0	931.6	-2,653.1	2,751.8	0.00	0.00	0.00
10,100.0	90.00	270.00	7,295.0	931.6	-2,753.1	2,850.9	0.00	0.00	0.00
10,200.0	90.00	270.00	7,295.0	931.6	-2,853.1	2,950.1	0.00	0.00	0.00
10,300.0	90.00	270.00	7,295.0	931.6	-2,953.1	3,049.2	0.00	0.00	0.00
10,400.0	90.00	270.00	7,295.0	931.6	-3,053.1	3,148.4	0.00	0.00	0.00
10,500.0	90.00	270.00	7,295.0	931.6	-3,153.1	3,247.5	0.00	0.00	0.00
10,600.0	90.00	270.00	7,295.0	931.6	-3,253.1	3,346.7	0.00	0.00	0.00
10,700.0	90.00	270.00	7,295.0	931.6	-3,353.1	3,445.8	0.00	0.00	0.00
10,800.0	90.00	270.00	7,295.0	931.6	-3,453.1	3,545.0	0.00	0.00	0.00
10,900.0	90.00	270.00	7,295.0	931.6	-3,553.1	3,644.1	0.00	0.00	0.00
11,000.0	90.00	270.00	7,295.0	931.6	-3,653.1	3,743.3	0.00	0.00	0.00
11,100.0	90.00	270.00	7,295.0	931.6	-3,753.1	3,842.4	0.00	0.00	0.00
11,200.0	90.00	270.00	7,295.0	931.6	-3,853.1	3,941.6	0.00	0.00	0.00
11,300.0	90.00	270.00	7,295.0	931.6	-3,953.1	4,040.7	0.00	0.00	0.00
11,400.0	90.00	270.00	7,295.0	931.6	-4,053.1	4,139.9	0.00	0.00	0.00
11,500.0	90.00	270.00	7,295.0	931.6	-4,153.1	4,239.0	0.00	0.00	0.00
11,600.0	90.00	270.00	7,295.0	931.6	-4,253.1	4,338.2	0.00	0.00	0.00
11,700.0	90.00	270.00	7,295.0	931.6	-4,353.1	4,437.3	0.00	0.00	0.00
11,800.0	90.00	270.00	7,295.0	931.6	-4,453.1	4,536.5	0.00	0.00	0.00
11,900.0	90.00	270.00	7,295.0	931.6	-4,553.1	4,635.6	0.00	0.00	0.00
12,000.0	90.00	270.00	7,295.0	931.6	-4,653.1	4,734.8	0.00	0.00	0.00
12,100.0	90.00	270.00	7,295.0	931.6	-4,753.1	4,833.9	0.00	0.00	0.00
12,200.0	90.00	270.00	7,295.0	931.6	-4,853.1	4,933.1	0.00	0.00	0.00
12,300.0	90.00	270.00	7,295.0	931.6	-4,953.1	5,032.2	0.00	0.00	0.00
12,400.0	90.00	270.00	7,295.0	931.6	-5,053.1	5,131.4	0.00	0.00	0.00
12,500.0	90.00	270.00	7,295.0	931.6	-5,153.1	5,230.5	0.00	0.00	0.00
12,600.0	90.00	270.00	7,295.0	931.6	-5,253.1	5,329.7	0.00	0.00	0.00
12,700.0	90.00	270.00	7,295.0	931.6	-5,353.1	5,428.8	0.00	0.00	0.00
12,800.0	90.00	270.00	7,295.0	931.6	-5,453.1	5,528.0	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

#### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,900.0	90.00	270.00	7,295.0	931.6	-5,553.1	5,627.1	0.00	0.00	0.00
13,000.0	90.00	270.00	7,295.0	931.6	-5,653.1	5,726.3	0.00	0.00	0.00
13,100.0	90.00	270.00	7,295.0	931.6	-5,753.1	5,825.4	0.00	0.00	0.00
13,200.0	90.00	270.00	7,295.0	931.6	-5,853.1	5,924.6	0.00	0.00	0.00
13,300.0	90.00	270.00	7,295.0	931.6	-5,953.1	6,023.7	0.00	0.00	0.00
13,400.0	90.00	270.00	7,295.0	931.6	-6,053.1	6,122.9	0.00	0.00	0.00
13,500.0	90.00	270.00	7,295.0	931.6	-6,153.1	6,222.0	0.00	0.00	0.00
13,600.0	90.00	270.00	7,295.0	931.6	-6,253.1	6,321.2	0.00	0.00	0.00
13,700.0	90.00	270.00	7,295.0	931.6	-6,353.1	6,420.3	0.00	0.00	0.00
13,800.0	90.00	270.00	7,295.0	931.6	-6,453.1	6,519.5	0.00	0.00	0.00
13,900.0	90.00	270.00	7,295.0	931.6	-6,553.1	6,618.6	0.00	0.00	0.00
14,000.0	90.00	270.00	7,295.0	931.6	-6,653.1	6,717.7	0.00	0.00	0.00
14,100.0	90.00	270.00	7,295.0	931.6	-6,753.1	6,816.9	0.00	0.00	0.00
14,200.0	90.00	270.00	7,295.0	931.6	-6,853.1	6,916.0	0.00	0.00	0.00
14,300.0	90.00	270.00	7,295.0	931.6	-6,953.1	7,015.2	0.00	0.00	0.00
14,400.0	90.00	270.00	7,295.0	931.6	-7,053.1	7,114.3	0.00	0.00	0.00
14,443.7	90.00	270.00	7,295.0	931.6	-7,096.8	7,157.7	0.00	0.00	0.00
BHL 2002'FSL & 2151'FEL, Sec.31									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,725.4	7,281.0	7"	7	7-1/2

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,757.0	3,710.0	Parkman		0.00	
4,447.7	4,390.0	Sussex		0.00	
4,864.2	4,800.0	Shannon		0.00	
6,985.7	6,886.0	Sharon Springs		0.00	
7,120.2	6,998.0	Niobrara A		0.00	
7,209.0	7,064.0	Niobrara B		0.00	
7,345.7	7,151.0	Niobrara C		0.00	
7,668.8	7,273.0	Ft Hays		0.00	
7,919.4	7,295.0	Codell		0.00	

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
400.0	400.0	0.0	0.0	KOP #1
6,605.4	6,521.3	931.6	305.0	KOP #2
7,919.4	7,295.0	931.6	-572.5	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

**Tarin 32X-HZ Pad Sec.32-T4N-R66W**

**Tarin 32W-434**

**Wellbore #1**

**Plan #1 (4-14-14)**

## **Anticollision Report**

**25 April, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (4-14-14)
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria
<b>Interpolation Method:</b>	MD Interval 100.0ft
<b>Depth Range:</b>	Unlimited
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft
<b>Warning Levels Evaluated at:</b>	2.00 Sigma
<b>Error Model:</b>	ISCWSA
<b>Scan Method:</b>	Closest Approach 3D
<b>Error Surface:</b>	Elliptical Conic

Survey Tool Program		Date	4/25/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,443.7	Plan #1 (4-14-14) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Tarin 32X-HZ Pad Sec.32-T4N-R66W						
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	200.0	200.0	29.3	28.6	43.407	CC, ES
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	14,443.7	14,311.0	449.7	98.6	1.281	Level 3, SF
Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)	400.0	401.0	91.1	89.5	57.801	CC, ES
Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)	14,443.7	14,158.7	808.7	421.6	2.089	SF
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	400.0	401.0	29.1	27.6	18.495	CC
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	14,443.7	14,304.2	315.8	-43.2	0.880	Level 1, ES, SF
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	400.0	401.0	58.3	56.7	36.992	CC, ES
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	14,443.7	14,380.0	709.0	303.9	1.750	SF
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	400.0	401.0	120.2	118.6	76.301	CC, ES
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	1,200.0	1,193.8	213.8	208.5	40.834	SF
Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)	400.0	402.0	149.4	147.8	94.663	CC, ES
Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)	1,100.0	1,090.6	226.7	221.9	47.766	SF
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	400.0	402.0	178.5	176.9	113.134	CC, ES
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	3,300.0	3,145.0	990.6	974.9	63.029	SF
Tarin Existing Wells Sec.32-T4N-R66W						
Benjamin 1 (Existing) - Wellbore #1 - Wellbore #1	12,870.5	7,278.7	118.8	-52.5	0.694	Level 1, CC, ES, SF
Cadi 1 (Existing) - Wellbore #1 - Wellbore #1	10,210.2	7,279.0	114.1	-116.4	0.495	Level 1, CC, ES, SF
Corey 31-32 (Existing) - Wellbore #1 - Wellbore #1	9,212.1	7,273.2	252.1	180.2	3.505	CC, ES, SF
Floyd 1 (Existing) - Wellbore #1 - Wellbore #1	7,754.9	7,264.3	148.2	111.4	4.031	CC, ES, SF
Nicholas 1 (Existing) - Wellbore #1 - Wellbore #1	14,251.1	7,282.0	100.3	-242.6	0.293	Level 1, CC, ES, SF
Wolfe 13-32 (Existing) - Wellbore #1 - Wellbore #1	11,589.2	7,280.3	259.5	121.1	1.874	CC
Wolfe 13-32 (Existing) - Wellbore #1 - Wellbore #1	11,600.0	7,280.4	259.7	121.0	1.872	ES, SF

<b>Offset Design</b> Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)												
Survey Program: 0-MWD												
Reference												
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.0	0.0	0.0	0.0	0.0	0.0	-5.47	29.1	-2.8	29.3			
100.0	100.0	100.0	100.0	0.1	0.1	-5.47	29.1	-2.8	29.3	29.0	0.22	130.222
200.0	200.0	200.0	200.0	0.3	0.3	-5.47	29.1	-2.8	29.3	28.6	0.67	43.407 CC, ES
300.0	300.0	299.0	299.0	0.6	0.6	-4.45	30.8	-2.4	30.9	29.8	1.12	27.520
400.0	400.0	397.8	397.6	0.8	0.8	-1.94	35.8	-1.2	35.9	34.3	1.58	22.703

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
500.0	500.0	496.2	495.7	1.0	1.0	-17.80	44.0	0.7	42.6	40.5	2.03	20.938		
600.0	599.8	594.5	593.2	1.2	1.3	-16.48	55.5	3.5	49.3	46.9	2.49	19.821		
700.0	699.5	692.4	690.0	1.5	1.6	-15.77	70.2	7.0	56.1	53.2	2.95	19.010		
800.0	798.7	790.2	786.1	1.7	2.0	-15.47	88.1	11.2	62.9	59.5	3.43	18.357		
900.0	897.5	887.8	881.2	2.0	2.4	-15.46	109.1	16.2	69.7	65.8	3.92	17.785		
1,000.0	995.9	987.3	977.7	2.4	2.8	-15.58	132.4	21.8	76.6	72.2	4.44	17.256		
1,100.0	1,094.4	1,087.0	1,074.5	2.7	3.3	-15.68	155.9	27.3	83.6	78.6	4.97	16.812		
1,200.0	1,192.8	1,186.8	1,171.3	3.1	3.8	-15.76	179.3	32.9	90.5	85.0	5.51	16.434		
1,300.0	1,291.2	1,286.5	1,268.1	3.5	4.3	-15.83	202.8	38.5	97.5	91.4	6.05	16.116		
1,400.0	1,389.7	1,386.3	1,364.9	3.8	4.8	-15.89	226.2	44.1	104.4	97.8	6.60	15.832		
1,500.0	1,488.1	1,486.1	1,461.7	4.2	5.2	-15.95	249.7	49.6	111.4	104.2	7.15	15.588		
1,600.0	1,586.6	1,585.8	1,558.5	4.6	5.7	-15.99	273.2	55.2	118.3	110.6	7.70	15.374		
1,700.0	1,685.0	1,685.6	1,655.3	5.0	6.2	-16.04	296.6	60.8	125.3	117.0	8.25	15.185		
1,800.0	1,783.5	1,785.3	1,752.1	5.4	6.7	-16.08	320.1	66.3	132.2	123.4	8.81	15.017		
1,900.0	1,881.9	1,885.1	1,848.9	5.7	7.2	-16.11	343.5	71.9	139.2	129.8	9.36	14.867		
2,000.0	1,980.4	1,984.8	1,945.7	6.1	7.7	-16.14	367.0	77.5	146.1	136.2	9.92	14.733		
2,100.0	2,078.8	2,084.6	2,042.6	6.5	8.2	-16.17	390.4	83.1	153.1	142.6	10.48	14.611		
2,200.0	2,177.2	2,184.4	2,139.4	6.9	8.7	-16.19	413.9	88.6	160.1	149.0	11.04	14.501		
2,300.0	2,275.7	2,284.1	2,236.2	7.3	9.2	-16.22	437.3	94.2	167.0	155.4	11.60	14.400		
2,400.0	2,374.1	2,383.9	2,333.0	7.7	9.7	-16.24	460.8	99.8	174.0	161.8	12.16	14.308		
2,500.0	2,472.6	2,483.6	2,429.8	8.1	10.2	-16.26	484.2	105.4	180.9	168.2	12.72	14.224		
2,600.0	2,571.0	2,583.4	2,526.6	8.5	10.7	-16.28	507.7	110.9	187.9	174.6	13.28	14.146		
2,700.0	2,669.5	2,683.1	2,623.4	8.8	11.2	-16.30	531.1	116.5	194.8	181.0	13.84	14.074		
2,800.0	2,767.9	2,782.9	2,720.2	9.2	11.7	-16.31	554.6	122.1	201.8	187.4	14.40	14.007		
2,900.0	2,866.4	2,882.7	2,817.0	9.6	12.2	-16.33	578.0	127.7	208.7	193.8	14.97	13.946		
3,000.0	2,964.8	2,982.4	2,913.8	10.0	12.7	-16.34	601.5	133.2	215.7	200.1	15.53	13.888		
3,100.0	3,063.2	3,082.2	3,010.6	10.4	13.2	-16.35	624.9	138.8	222.6	206.5	16.09	13.834		
3,200.0	3,161.7	3,181.9	3,107.4	10.8	13.7	-16.37	648.4	144.4	229.6	212.9	16.66	13.784		
3,300.0	3,260.1	3,281.7	3,204.2	11.2	14.2	-16.38	671.8	149.9	236.5	219.3	17.22	13.736		
3,400.0	3,358.6	3,381.5	3,301.0	11.6	14.6	-16.39	695.3	155.5	243.5	225.7	17.78	13.692		
3,500.0	3,457.0	3,481.2	3,397.8	12.0	15.1	-16.40	718.7	161.1	250.4	232.1	18.35	13.650		
3,600.0	3,555.5	3,581.0	3,494.6	12.4	15.6	-16.41	742.2	166.7	257.4	238.5	18.91	13.611		
3,700.0	3,653.9	3,680.7	3,591.4	12.8	16.1	-16.42	765.6	172.2	264.3	244.9	19.47	13.574		
3,800.0	3,752.4	3,780.5	3,688.2	13.1	16.6	-16.43	789.1	177.8	271.3	251.3	20.04	13.538		
3,900.0	3,850.8	3,880.2	3,785.0	13.5	17.1	-16.43	812.5	183.4	278.2	257.6	20.60	13.505		
4,000.0	3,949.2	3,980.0	3,881.8	13.9	17.6	-16.44	836.0	189.0	285.2	264.0	21.17	13.473		
4,100.0	4,047.7	4,079.8	3,978.6	14.3	18.1	-16.45	859.5	194.5	292.2	270.4	21.73	13.443		
4,200.0	4,146.1	4,179.5	4,075.4	14.7	18.6	-16.46	882.9	200.1	299.1	276.8	22.30	13.415		
4,300.0	4,244.6	4,279.3	4,172.2	15.1	19.1	-16.46	906.4	205.7	306.1	283.2	22.86	13.387		
4,400.0	4,343.0	4,379.0	4,269.0	15.5	19.6	-16.47	929.8	211.3	313.0	289.6	23.43	13.361		
4,500.0	4,441.5	4,478.8	4,365.8	15.9	20.1	-16.48	953.3	216.8	320.0	296.0	23.99	13.337		
4,600.0	4,539.9	4,578.5	4,462.6	16.3	20.6	-16.48	976.7	222.4	326.9	302.4	24.56	13.313		
4,700.0	4,638.4	4,678.3	4,559.4	16.7	21.1	-16.49	1,000.2	228.0	333.9	308.8	25.12	13.290		
4,800.0	4,736.8	4,778.1	4,656.2	17.1	21.6	-16.49	1,023.6	233.6	340.8	315.1	25.69	13.269		
4,900.0	4,835.2	4,877.8	4,753.0	17.5	22.1	-16.50	1,047.1	239.1	347.8	321.5	26.25	13.248		
5,000.0	4,933.7	4,977.6	4,849.8	17.8	22.6	-16.50	1,070.5	244.7	354.7	327.9	26.82	13.228		
5,100.0	5,032.1	5,077.3	4,946.6	18.2	23.1	-16.51	1,094.0	250.3	361.7	334.3	27.38	13.209		
5,200.0	5,130.6	5,177.1	5,043.4	18.6	23.6	-16.51	1,117.4	255.8	368.6	340.7	27.95	13.190		
5,300.0	5,229.0	5,276.9	5,140.2	19.0	24.1	-16.52	1,140.9	261.4	375.6	347.1	28.51	13.173		
5,400.0	5,327.5	5,376.6	5,237.0	19.4	24.6	-16.52	1,164.3	267.0	382.5	353.5	29.08	13.156		
5,500.0	5,425.9	5,476.4	5,333.8	19.8	25.1	-16.53	1,187.8	272.6	389.5	359.9	29.64	13.139		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,600.0	5,524.4	5,576.1	5,430.6	20.2	25.6	-16.53		1,211.2	278.1	396.4	366.2	30.21	13.123	
5,700.0	5,622.8	5,679.1	5,530.6	20.6	26.1	-16.54		1,235.4	283.9	403.3	372.5	30.78	13.104	
5,800.0	5,721.3	5,795.1	5,643.9	21.0	26.5	-16.64		1,259.5	289.6	407.5	376.2	31.34	13.002	
5,900.0	5,819.7	5,911.3	5,758.2	21.4	26.9	-16.87		1,279.2	294.3	407.7	375.8	31.90	12.779	
6,000.0	5,918.2	6,027.2	5,873.1	21.8	27.2	-17.24		1,294.3	297.9	404.1	371.6	32.46	12.447	
6,100.0	6,017.0	6,142.9	5,988.3	22.0	27.4	-17.62		1,304.9	300.4	398.8	365.9	32.91	12.119	
6,200.0	6,116.3	6,258.2	6,103.4	22.3	27.6	-17.98		1,310.9	301.8	392.9	359.6	33.29	11.804	
6,300.0	6,216.0	6,370.8	6,216.0	22.5	27.7	-18.30		1,312.5	302.2	386.5	352.9	33.60	11.503	
6,400.0	6,315.9	6,470.7	6,315.9	22.7	27.8	-18.50		1,312.5	302.2	382.1	348.2	33.85	11.287	
6,491.9	6,407.7	6,561.9	6,406.9	22.8	27.9	-19.27		1,312.5	297.5	380.8	346.6	34.16	11.147	
6,500.0	6,415.9	6,569.8	6,414.8	22.8	27.9	-1.27		1,312.5	296.6	381.0	331.6	49.44	7.706	
6,600.0	6,515.9	6,666.0	6,509.3	22.9	28.0	-3.91		1,312.5	278.9	381.9	332.6	49.26	7.751	
6,700.0	6,615.6	6,758.2	6,597.1	23.0	28.0	82.52		1,312.5	251.0	384.4	348.3	36.06	10.659	
6,800.0	6,713.8	6,850.0	6,680.6	23.1	28.0	79.06		1,312.5	212.9	388.3	351.3	36.95	10.509	
6,900.0	6,808.6	6,935.5	6,753.7	23.1	27.9	76.00		1,312.5	168.7	393.1	355.6	37.53	10.474	
7,000.0	6,898.5	7,021.3	6,821.6	23.1	27.9	73.15		1,312.5	116.3	398.7	360.8	37.84	10.536	
7,100.0	6,982.0	7,105.6	6,882.2	23.0	27.9	70.62		1,312.5	57.8	404.5	366.6	37.90	10.673	
7,200.0	7,057.6	7,188.6	6,935.2	23.0	27.9	68.42		1,312.5	-5.9	410.3	372.5	37.84	10.843	
7,300.0	7,124.0	7,270.4	6,980.5	23.0	27.9	66.56		1,312.5	-74.1	415.7	377.8	37.90	10.970	
7,400.0	7,180.1	7,350.0	7,017.2	23.0	28.0	65.06		1,312.5	-144.7	420.6	382.3	38.21	11.006	
7,500.0	7,224.9	7,431.8	7,047.1	23.2	28.1	63.87		1,312.5	-220.8	424.5	385.4	39.14	10.846	
7,600.0	7,257.7	7,511.6	7,068.3	23.5	28.4	63.05		1,312.5	-297.7	427.5	386.7	40.77	10.486	
7,700.0	7,277.9	7,591.1	7,081.3	24.3	28.7	62.56		1,312.5	-376.1	429.2	386.1	43.17	9.942	
7,800.0	7,288.8	7,670.3	7,086.1	25.5	29.3	62.09		1,312.5	-455.1	431.5	385.6	45.85	9.410	
7,900.0	7,294.8	7,767.4	7,085.7	27.2	30.3	61.24		1,312.5	-552.1	434.5	385.3	49.29	8.815	
8,000.0	7,295.0	7,867.4	7,085.3	29.1	31.6	61.16		1,312.5	-652.1	434.8	381.9	52.94	8.214	
8,100.0	7,295.0	7,967.4	7,084.8	31.1	33.3	61.11		1,312.5	-752.1	435.1	378.4	56.71	7.671	
8,200.0	7,295.0	8,067.4	7,084.3	33.3	35.1	61.06		1,312.5	-852.1	435.3	374.6	60.65	7.177	
8,300.0	7,295.0	8,167.4	7,083.9	35.6	37.2	61.00		1,312.5	-952.1	435.5	370.8	64.73	6.728	
8,400.0	7,295.0	8,267.4	7,083.4	37.9	39.4	60.95		1,312.5	-1,052.1	435.7	366.8	68.92	6.323	
8,500.0	7,295.0	8,367.4	7,083.0	40.4	41.6	60.90		1,312.5	-1,152.1	435.9	362.8	73.19	5.956	
8,600.0	7,295.0	8,467.4	7,082.5	42.8	44.0	60.85		1,312.5	-1,252.1	436.2	358.6	77.54	5.625	
8,700.0	7,295.0	8,567.4	7,082.1	45.3	46.4	60.80		1,312.5	-1,352.1	436.4	354.4	81.96	5.324	
8,800.0	7,295.0	8,667.4	7,081.6	47.9	48.9	60.74		1,312.5	-1,452.1	436.6	350.2	86.42	5.052	
8,900.0	7,295.0	8,767.4	7,081.2	50.4	51.4	60.69		1,312.5	-1,552.1	436.8	345.9	90.93	4.804	
9,000.0	7,295.0	8,867.4	7,080.7	53.0	53.9	60.64		1,312.5	-1,652.1	437.1	341.6	95.48	4.577	
9,100.0	7,295.0	8,967.4	7,080.3	55.6	56.4	60.59		1,312.5	-1,752.1	437.3	337.2	100.06	4.370	
9,200.0	7,295.0	9,067.4	7,079.8	58.3	59.0	60.54		1,312.5	-1,852.1	437.5	332.8	104.66	4.180	
9,300.0	7,295.0	9,167.4	7,079.4	60.9	61.6	60.49		1,312.5	-1,952.1	437.7	328.4	109.28	4.005	
9,400.0	7,295.0	9,267.3	7,078.9	63.6	64.2	60.43		1,312.5	-2,052.1	437.9	324.0	113.93	3.844	
9,500.0	7,295.0	9,367.3	7,078.5	66.2	66.9	60.38		1,312.5	-2,152.1	438.2	319.6	118.59	3.695	
9,600.0	7,295.0	9,467.3	7,078.0	68.9	69.5	60.33		1,312.5	-2,252.1	438.4	315.1	123.26	3.557	
9,700.0	7,295.0	9,567.3	7,077.5	71.6	72.2	60.28		1,312.5	-2,352.1	438.6	310.7	127.95	3.428	
9,800.0	7,295.0	9,667.3	7,077.1	74.3	74.9	60.23		1,312.5	-2,452.1	438.8	306.2	132.64	3.308	
9,900.0	7,295.0	9,767.3	7,076.6	77.0	77.5	60.18		1,312.5	-2,552.1	439.1	301.7	137.35	3.197	
10,000.0	7,295.0	9,867.3	7,076.2	79.7	80.2	60.12		1,312.5	-2,652.1	439.3	297.2	142.06	3.092	
10,100.0	7,295.0	9,967.3	7,075.7	82.4	82.9	60.07		1,312.5	-2,752.1	439.5	292.7	146.77	2.995	
10,200.0	7,295.0	10,067.3	7,075.3	85.2	85.6	60.02		1,312.5	-2,852.1	439.7	288.3	151.50	2.903	
10,300.0	7,295.0	10,167.3	7,074.8	87.9	88.3	59.97		1,312.5	-2,952.1	440.0	283.8	156.22	2.816	
10,400.0	7,295.0	10,267.3	7,074.4	90.6	91.1	59.92		1,312.5	-3,052.1	440.2	279.3	160.95	2.735	
10,500.0	7,295.0	10,367.3	7,073.9	93.4	93.8	59.87		1,312.5	-3,152.1	440.4	274.7	165.68	2.658	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,600.0	7,295.0	10,467.3	7,073.5	96.1	96.5	59.82	59.82	1,312.5	-3,252.1	440.7	270.2	170.42	2.586	
10,700.0	7,295.0	10,567.3	7,073.0	98.9	99.2	59.77	59.77	1,312.5	-3,352.1	440.9	265.7	175.15	2.517	
10,800.0	7,295.0	10,667.3	7,072.6	101.6	102.0	59.72	59.72	1,312.5	-3,452.1	441.1	261.2	179.89	2.452	
10,900.0	7,295.0	10,767.3	7,072.1	104.4	104.7	59.67	59.67	1,312.5	-3,552.1	441.3	256.7	184.62	2.391	
11,000.0	7,295.0	10,867.3	7,071.6	107.1	107.5	59.61	59.61	1,312.5	-3,652.1	441.6	252.2	189.36	2.332	
11,100.0	7,295.0	10,967.3	7,071.2	109.9	110.2	59.56	59.56	1,312.5	-3,752.1	441.8	247.7	194.10	2.276	
11,200.0	7,295.0	11,067.3	7,070.7	112.6	113.0	59.51	59.51	1,312.5	-3,852.1	442.0	243.2	198.83	2.223	
11,300.0	7,295.0	11,167.3	7,070.3	115.4	115.7	59.46	59.46	1,312.5	-3,952.1	442.3	238.7	203.57	2.173	
11,400.0	7,295.0	11,267.3	7,069.8	118.2	118.5	59.41	59.41	1,312.5	-4,052.1	442.5	234.2	208.30	2.124	
11,500.0	7,295.0	11,367.3	7,069.4	120.9	121.2	59.36	59.36	1,312.5	-4,152.1	442.7	229.7	213.03	2.078	
11,600.0	7,295.0	11,467.3	7,068.9	123.7	124.0	59.31	59.31	1,312.5	-4,252.1	443.0	225.2	217.77	2.034	
11,700.0	7,295.0	11,567.3	7,068.5	126.5	126.7	59.26	59.26	1,312.5	-4,352.1	443.2	220.7	222.49	1.992	
11,800.0	7,295.0	11,667.3	7,068.0	129.2	129.5	59.21	59.21	1,312.5	-4,452.1	443.4	216.2	227.22	1.951	
11,900.0	7,295.0	11,767.3	7,067.6	132.0	132.3	59.16	59.16	1,312.5	-4,552.1	443.7	211.7	231.95	1.913	
12,000.0	7,295.0	11,867.3	7,067.1	134.8	135.0	59.11	59.11	1,312.5	-4,652.1	443.9	207.2	236.67	1.876	
12,100.0	7,295.0	11,967.3	7,066.7	137.6	137.8	59.06	59.06	1,312.5	-4,752.1	444.1	202.7	241.39	1.840	
12,200.0	7,295.0	12,067.3	7,066.2	140.3	140.6	59.01	59.01	1,312.5	-4,852.1	444.4	198.2	246.11	1.806	
12,300.0	7,295.0	12,167.3	7,065.7	143.1	143.3	58.96	58.96	1,312.5	-4,952.1	444.6	193.8	250.82	1.773	
12,400.0	7,295.0	12,267.3	7,065.3	145.9	146.1	58.91	58.91	1,312.5	-5,052.0	444.8	189.3	255.53	1.741	
12,500.0	7,295.0	12,367.3	7,064.8	148.7	148.9	58.86	58.86	1,312.5	-5,152.0	445.1	184.8	260.24	1.710	
12,600.0	7,295.0	12,467.3	7,064.4	151.5	151.7	58.81	58.81	1,312.5	-5,252.0	445.3	180.3	264.95	1.681	
12,700.0	7,295.0	12,567.3	7,063.9	154.2	154.4	58.76	58.76	1,312.5	-5,352.0	445.5	175.9	269.65	1.652	
12,800.0	7,295.0	12,667.3	7,063.5	157.0	157.2	58.71	58.71	1,312.5	-5,452.0	445.8	171.4	274.35	1.625	
12,900.0	7,295.0	12,767.3	7,063.0	159.8	160.0	58.66	58.66	1,312.5	-5,552.0	446.0	167.0	279.05	1.598	
13,000.0	7,295.0	12,867.3	7,062.6	162.6	162.8	58.61	58.61	1,312.5	-5,652.0	446.2	162.5	283.74	1.573	
13,100.0	7,295.0	12,967.3	7,062.1	165.4	165.6	58.56	58.56	1,312.5	-5,752.0	446.5	158.0	288.43	1.548	
13,200.0	7,295.0	13,067.3	7,061.7	168.2	168.3	58.51	58.51	1,312.5	-5,852.0	446.7	153.6	293.12	1.524	
13,300.0	7,295.0	13,167.3	7,061.2	170.9	171.1	58.46	58.46	1,312.5	-5,952.0	446.9	149.1	297.80	1.501	
13,400.0	7,295.0	13,267.3	7,060.8	173.7	173.9	58.41	58.41	1,312.5	-6,052.0	447.2	144.7	302.48	1.478 Level 3	
13,500.0	7,295.0	13,367.3	7,060.3	176.5	176.7	58.36	58.36	1,312.5	-6,152.0	447.4	140.3	307.16	1.457 Level 3	
13,600.0	7,295.0	13,467.3	7,059.8	179.3	179.5	58.31	58.31	1,312.5	-6,252.0	447.7	135.8	311.83	1.436 Level 3	
13,700.0	7,295.0	13,567.3	7,059.4	182.1	182.3	58.26	58.26	1,312.5	-6,352.0	447.9	131.4	316.49	1.415 Level 3	
13,800.0	7,295.0	13,667.3	7,058.9	184.9	185.0	58.21	58.21	1,312.5	-6,452.0	448.1	127.0	321.16	1.395 Level 3	
13,900.0	7,295.0	13,767.3	7,058.5	187.7	187.8	58.16	58.16	1,312.5	-6,552.0	448.4	122.6	325.82	1.376 Level 3	
14,000.0	7,295.0	13,867.3	7,058.0	190.5	190.6	58.11	58.11	1,312.5	-6,652.0	448.6	118.1	330.48	1.357 Level 3	
14,100.0	7,295.0	13,967.3	7,057.6	193.3	193.4	58.07	58.07	1,312.5	-6,752.0	448.9	113.7	335.13	1.339 Level 3	
14,200.0	7,295.0	14,067.3	7,057.1	196.1	196.2	58.02	58.02	1,312.5	-6,852.0	449.1	109.3	339.78	1.322 Level 3	
14,300.0	7,295.0	14,167.3	7,056.7	198.8	199.0	57.97	57.97	1,312.5	-6,952.0	449.3	104.9	344.42	1.305 Level 3	
14,400.0	7,295.0	14,267.3	7,056.2	201.6	201.8	57.92	57.92	1,312.5	-7,052.0	449.6	100.5	349.06	1.288 Level 3	
14,443.7	7,295.0	14,311.0	7,056.0	202.9	203.0	57.90	57.90	1,312.5	-7,095.7	449.7	98.6	351.09	1.281 Level 3, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-180.00	-91.1	0.0	91.1	91.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-180.00	-91.1	0.0	91.1	90.8	0.23	401.173	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-180.00	-91.1	0.0	91.1	90.4	0.68	134.613	
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-180.00	-91.1	0.0	91.1	89.9	1.13	80.875	
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-180.00	-91.1	0.0	91.1	89.5	1.58	57.801 CC, ES	
500.0	500.0	501.0	501.0	1.0	1.0	162.20	162.20	-91.1	0.0	92.7	90.7	2.03	45.729	
600.0	599.8	600.8	600.8	1.2	1.2	163.11	163.11	-91.1	0.0	97.7	95.2	2.48	39.367	
700.0	699.5	700.5	700.5	1.5	1.5	164.43	164.43	-91.1	0.0	106.1	103.2	2.94	36.117	
800.0	798.7	799.7	799.7	1.7	1.7	165.96	165.96	-91.1	0.0	117.9	114.5	3.39	34.743	
900.0	897.5	898.5	898.5	2.0	1.9	167.53	167.53	-91.1	0.0	133.1	129.3	3.85	34.585	
1,000.0	995.9	996.9	996.9	2.4	2.1	168.97	168.97	-91.1	0.0	150.3	146.0	4.31	34.907	
1,100.0	1,094.4	1,095.4	1,095.4	2.7	2.3	170.12	170.12	-91.1	0.0	167.6	162.9	4.77	35.156	
1,200.0	1,192.8	1,193.8	1,193.8	3.1	2.6	171.05	171.05	-91.1	0.0	185.0	179.7	5.23	35.356	
1,300.0	1,291.2	1,292.2	1,292.2	3.5	2.8	171.82	171.82	-91.1	0.0	202.3	196.6	5.70	35.519	
1,400.0	1,389.7	1,390.7	1,390.7	3.8	3.0	172.48	172.48	-91.1	0.0	219.7	213.6	6.16	35.655	
1,500.0	1,488.1	1,489.1	1,489.1	4.2	3.2	173.03	173.03	-91.1	0.0	237.2	230.5	6.63	35.769	
1,600.0	1,586.6	1,594.1	1,594.0	4.6	3.5	173.32	173.32	-90.1	1.2	253.5	246.4	7.11	35.666	
1,700.0	1,685.0	1,700.7	1,700.5	5.0	3.7	173.04	173.04	-86.6	5.4	267.0	259.4	7.59	35.190	
1,800.0	1,783.5	1,807.7	1,807.1	5.4	3.9	172.27	172.27	-80.6	12.7	277.7	269.6	8.08	34.361	
1,900.0	1,881.9	1,907.1	1,906.0	5.7	4.2	171.37	171.37	-73.9	20.9	287.1	278.5	8.57	33.492	
2,000.0	1,980.4	2,006.6	2,004.9	6.1	4.4	170.54	170.54	-67.2	29.1	296.5	287.4	9.07	32.695	
2,100.0	2,078.8	2,106.1	2,103.8	6.5	4.7	169.75	169.75	-60.4	37.2	306.0	296.4	9.57	31.965	
2,200.0	2,177.2	2,205.5	2,202.7	6.9	4.9	169.01	169.01	-53.7	45.4	315.5	305.5	10.08	31.297	
2,300.0	2,275.7	2,305.0	2,301.6	7.3	5.2	168.32	168.32	-47.0	53.6	325.1	314.6	10.60	30.681	
2,400.0	2,374.1	2,404.4	2,400.5	7.7	5.4	167.66	167.66	-40.3	61.7	334.8	323.7	11.12	30.114	
2,500.0	2,472.6	2,503.9	2,499.4	8.1	5.7	167.04	167.04	-33.6	69.9	344.5	332.8	11.64	29.590	
2,600.0	2,571.0	2,603.4	2,598.3	8.5	6.0	166.46	166.46	-26.9	78.1	354.2	342.0	12.17	29.104	
2,700.0	2,669.5	2,702.8	2,697.2	8.8	6.2	165.90	165.90	-20.2	86.2	364.0	351.3	12.70	28.653	
2,800.0	2,767.9	2,802.3	2,796.1	9.2	6.5	165.38	165.38	-13.5	94.4	373.7	360.5	13.24	28.234	
2,900.0	2,866.4	2,901.8	2,895.0	9.6	6.8	164.88	164.88	-6.7	102.6	383.6	369.8	13.78	27.842	
3,000.0	2,964.8	3,001.2	2,993.9	10.0	7.1	164.41	164.41	0.0	110.7	393.4	379.1	14.32	27.476	
3,100.0	3,063.2	3,100.7	3,092.8	10.4	7.3	163.96	163.96	6.7	118.9	403.3	388.4	14.86	27.134	
3,200.0	3,161.7	3,200.1	3,191.7	10.8	7.6	163.53	163.53	13.4	127.0	413.2	397.8	15.41	26.813	
3,300.0	3,260.1	3,299.6	3,290.6	11.2	7.9	163.12	163.12	20.1	135.2	423.1	407.1	15.96	26.511	
3,400.0	3,358.6	3,399.1	3,389.5	11.6	8.2	162.73	162.73	26.8	143.4	433.0	416.5	16.51	26.228	
3,500.0	3,457.0	3,498.5	3,488.4	12.0	8.5	162.36	162.36	33.5	151.5	443.0	425.9	17.06	25.960	
3,600.0	3,555.5	3,598.0	3,587.3	12.4	8.7	162.00	162.00	40.3	159.7	453.0	435.3	17.62	25.708	
3,700.0	3,653.9	3,697.5	3,686.2	12.8	9.0	161.66	161.66	47.0	167.9	463.0	444.8	18.18	25.469	
3,800.0	3,752.4	3,796.9	3,785.1	13.1	9.3	161.34	161.34	53.7	176.0	473.0	454.2	18.74	25.244	
3,900.0	3,850.8	3,896.4	3,884.0	13.5	9.6	161.02	161.02	60.4	184.2	483.0	463.7	19.30	25.030	
4,000.0	3,949.2	3,995.8	3,982.9	13.9	9.9	160.72	160.72	67.1	192.4	493.0	473.2	19.86	24.827	
4,100.0	4,047.7	4,095.3	4,081.8	14.3	10.2	160.44	160.44	73.8	200.5	503.1	482.6	20.42	24.634	
4,200.0	4,146.1	4,194.8	4,180.7	14.7	10.5	160.16	160.16	80.5	208.7	513.1	492.1	20.99	24.451	
4,300.0	4,244.6	4,294.2	4,279.6	15.1	10.7	159.89	159.89	87.2	216.9	523.2	501.6	21.55	24.276	
4,400.0	4,343.0	4,393.7	4,378.5	15.5	11.0	159.64	159.64	94.0	225.0	533.3	511.2	22.12	24.110	
4,500.0	4,441.5	4,493.2	4,477.4	15.9	11.3	159.39	159.39	100.7	233.2	543.4	520.7	22.69	23.951	
4,600.0	4,539.9	4,592.6	4,576.3	16.3	11.6	159.15	159.15	107.4	241.3	553.5	530.2	23.26	23.799	
4,700.0	4,638.4	4,692.1	4,675.2	16.7	11.9	158.92	158.92	114.1	249.5	563.6	539.8	23.83	23.654	
4,800.0	4,736.8	4,791.5	4,774.1	17.1	12.2	158.70	158.70	120.8	257.7	573.7	549.3	24.40	23.516	
4,900.0	4,835.2	4,891.0	4,873.0	17.5	12.5	158.49	158.49	127.5	265.8	583.8	558.9	24.97	23.383	
5,000.0	4,933.7	4,990.5	4,971.9	17.8	12.8	158.28	158.28	134.2	274.0	594.0	568.4	25.54	23.256	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,032.1	5,089.9	5,070.8	18.2	13.1	158.09		141.0	282.2	604.1	578.0	26.11	23.134	
5,200.0	5,130.6	5,189.4	5,169.7	18.6	13.4	157.89		147.7	290.3	614.3	587.6	26.69	23.016	
5,300.0	5,229.0	5,280.6	5,260.4	19.0	13.6	157.78		153.4	297.2	624.9	597.7	27.21	22.970	
5,400.0	5,327.5	5,368.6	5,348.2	19.4	13.8	157.86		157.2	301.9	637.3	609.6	27.65	23.047	
5,500.0	5,425.9	5,456.0	5,435.5	19.8	13.9	158.14		159.3	304.4	651.4	623.3	28.05	23.221	
5,600.0	5,524.4	5,545.8	5,525.4	20.2	14.1	158.60		159.7	305.0	667.3	638.8	28.43	23.470	
5,700.0	5,622.8	5,644.3	5,623.8	20.6	14.3	159.14		159.7	305.0	683.7	654.9	28.83	23.714	
5,800.0	5,721.3	5,742.7	5,722.3	21.0	14.4	159.65		159.7	305.0	700.2	670.9	29.24	23.943	
5,900.0	5,819.7	5,841.2	5,820.7	21.4	14.6	160.14		159.7	305.0	716.7	687.0	29.66	24.164	
6,000.0	5,918.2	5,939.6	5,919.2	21.8	14.8	160.62		159.7	305.0	733.2	703.1	30.08	24.376	
6,100.0	6,017.0	6,038.5	6,018.0	22.0	15.0	161.10		159.7	305.0	747.5	717.0	30.47	24.535	
6,200.0	6,116.3	6,137.8	6,117.3	22.3	15.2	161.46		159.7	305.0	758.5	727.7	30.83	24.604	
6,300.0	6,216.0	6,237.4	6,217.0	22.5	15.4	161.70		159.7	305.0	766.3	735.1	31.17	24.586	
6,400.0	6,315.9	6,337.3	6,316.9	22.7	15.6	161.84		159.7	305.0	770.7	739.2	31.47	24.486	
6,500.0	6,415.9	6,436.6	6,415.8	22.8	15.7	-179.44		159.7	297.4	771.9	734.9	37.00	20.861	
6,600.0	6,515.9	6,532.4	6,509.5	22.9	15.8	-178.00		159.7	278.1	772.4	735.0	37.41	20.646	
6,700.0	6,615.6	6,623.9	6,596.1	23.0	15.8	-86.11		159.7	248.8	773.8	742.0	31.75	24.368	
6,800.0	6,713.8	6,712.8	6,676.4	23.1	15.8	-84.29		159.7	210.5	776.0	744.3	31.72	24.464	
6,900.0	6,808.6	6,800.0	6,750.2	23.1	15.8	-82.56		159.7	164.3	778.8	747.0	31.72	24.551	
7,000.0	6,898.5	6,884.4	6,816.3	23.1	15.8	-80.98		159.7	111.7	782.0	750.1	31.83	24.565	
7,100.0	6,982.0	6,967.7	6,875.3	23.0	16.0	-79.54		159.7	53.1	785.4	753.3	32.12	24.451	
7,200.0	7,057.6	7,050.0	6,927.1	23.0	16.3	-78.25		159.7	-10.8	788.8	756.2	32.66	24.154	
7,300.0	7,124.0	7,130.4	6,970.8	23.0	16.9	-77.14		159.7	-78.3	792.1	758.6	33.54	23.620	
7,400.0	7,180.1	7,210.3	7,006.9	23.0	17.7	-76.22		159.7	-149.5	795.0	760.2	34.80	22.844	
7,500.0	7,224.9	7,289.5	7,035.2	23.2	18.7	-75.49		159.7	-223.5	797.5	761.0	36.50	21.847	
7,600.0	7,257.7	7,368.2	7,055.5	23.5	19.9	-74.96		159.7	-299.4	799.4	760.7	38.64	20.689	
7,700.0	7,277.9	7,450.0	7,068.3	24.3	21.3	-74.62		159.7	-380.2	800.5	759.3	41.22	19.420	
7,800.0	7,288.8	7,524.5	7,072.3	25.5	22.7	-74.34		159.7	-454.6	801.9	757.8	44.15	18.162	
7,900.0	7,294.8	7,622.4	7,072.1	27.2	24.7	-73.84		159.7	-552.5	803.6	756.0	47.64	16.869	
8,000.0	7,295.0	7,722.4	7,071.8	29.1	26.9	-73.81		159.7	-652.5	803.8	752.1	51.65	15.562	
8,100.0	7,295.0	7,822.4	7,071.6	31.1	29.1	-73.79		159.7	-752.5	803.8	747.9	55.92	14.374	
8,200.0	7,295.0	7,922.4	7,071.3	33.3	31.5	-73.77		159.7	-852.5	803.9	743.5	60.38	13.315	
8,300.0	7,295.0	8,022.4	7,071.1	35.6	33.9	-73.75		159.7	-952.5	804.0	739.0	64.97	12.374	
8,400.0	7,295.0	8,122.4	7,070.8	37.9	36.4	-73.74		159.7	-1,052.5	804.1	734.4	69.68	11.539	
8,500.0	7,295.0	8,222.4	7,070.5	40.4	38.9	-73.72		159.7	-1,152.5	804.1	729.6	74.48	10.796	
8,600.0	7,295.0	8,322.4	7,070.3	42.8	41.4	-73.70		159.7	-1,252.5	804.2	724.8	79.36	10.133	
8,700.0	7,295.0	8,422.4	7,070.0	45.3	44.0	-73.68		159.7	-1,352.5	804.3	720.0	84.30	9.540	
8,800.0	7,295.0	8,522.4	7,069.8	47.9	46.6	-73.66		159.7	-1,452.5	804.3	715.1	89.29	9.008	
8,900.0	7,295.0	8,622.4	7,069.5	50.4	49.3	-73.65		159.7	-1,552.5	804.4	710.1	94.33	8.528	
9,000.0	7,295.0	8,722.4	7,069.2	53.0	51.9	-73.63		159.7	-1,652.5	804.5	705.1	99.40	8.093	
9,100.0	7,295.0	8,822.4	7,069.0	55.6	54.6	-73.61		159.7	-1,752.5	804.6	700.1	104.50	7.699	
9,200.0	7,295.0	8,922.4	7,068.7	58.3	57.3	-73.59		159.7	-1,852.5	804.6	695.0	109.63	7.339	
9,300.0	7,295.0	9,022.4	7,068.4	60.9	60.0	-73.57		159.7	-1,952.5	804.7	689.9	114.79	7.011	
9,400.0	7,295.0	9,122.4	7,068.2	63.6	62.7	-73.56		159.7	-2,052.5	804.8	684.8	119.96	6.709	
9,500.0	7,295.0	9,222.4	7,067.9	66.2	65.4	-73.54		159.7	-2,152.5	804.9	679.7	125.15	6.431	
9,600.0	7,295.0	9,322.4	7,067.7	68.9	68.1	-73.52		159.7	-2,252.5	804.9	674.6	130.35	6.175	
9,700.0	7,295.0	9,422.4	7,067.4	71.6	70.8	-73.50		159.7	-2,352.5	805.0	669.4	135.57	5.938	
9,800.0	7,295.0	9,522.4	7,067.1	74.3	73.5	-73.48		159.7	-2,452.5	805.1	664.3	140.80	5.718	
9,900.0	7,295.0	9,622.4	7,066.9	77.0	76.3	-73.47		159.7	-2,552.5	805.2	659.1	146.04	5.513	
10,000.0	7,295.0	9,722.4	7,066.6	79.7	79.0	-73.45		159.7	-2,652.5	805.2	653.9	151.29	5.323	
10,100.0	7,295.0	9,822.4	7,066.4	82.4	81.8	-73.43		159.7	-2,752.5	805.3	648.8	156.54	5.144	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,295.0	9,922.4	7,066.1	85.2	84.5	-73.41		159.7	-2,852.5	805.4	643.6	161.81	4.977	
10,300.0	7,295.0	10,022.4	7,065.8	87.9	87.3	-73.40		159.7	-2,952.5	805.5	638.4	167.08	4.821	
10,400.0	7,295.0	10,122.4	7,065.6	90.6	90.0	-73.38		159.7	-3,052.5	805.5	633.2	172.35	4.674	
10,500.0	7,295.0	10,222.4	7,065.3	93.4	92.8	-73.36		159.7	-3,152.5	805.6	628.0	177.63	4.535	
10,600.0	7,295.0	10,322.4	7,065.0	96.1	95.5	-73.34		159.7	-3,252.5	805.7	622.8	182.92	4.405	
10,700.0	7,295.0	10,422.4	7,064.8	98.9	98.3	-73.32		159.7	-3,352.5	805.8	617.5	188.21	4.281	
10,800.0	7,295.0	10,522.4	7,064.5	101.6	101.1	-73.31		159.7	-3,452.5	805.8	612.3	193.50	4.164	
10,900.0	7,295.0	10,622.4	7,064.3	104.4	103.8	-73.29		159.7	-3,552.5	805.9	607.1	198.80	4.054	
11,000.0	7,295.0	10,722.4	7,064.0	107.1	106.6	-73.27		159.7	-3,652.5	806.0	601.9	204.10	3.949	
11,100.0	7,295.0	10,822.4	7,063.7	109.9	109.4	-73.25		159.7	-3,752.5	806.1	596.7	209.40	3.849	
11,200.0	7,295.0	10,922.4	7,063.5	112.6	112.2	-73.23		159.7	-3,852.5	806.1	591.4	214.71	3.755	
11,300.0	7,295.0	11,022.4	7,063.2	115.4	114.9	-73.22		159.7	-3,952.5	806.2	586.2	220.02	3.664	
11,400.0	7,295.0	11,122.4	7,062.9	118.2	117.7	-73.20		159.7	-4,052.5	806.3	581.0	225.33	3.578	
11,500.0	7,295.0	11,222.4	7,062.7	120.9	120.5	-73.18		159.7	-4,152.5	806.4	575.7	230.64	3.496	
11,600.0	7,295.0	11,322.4	7,062.4	123.7	123.3	-73.16		159.7	-4,252.5	806.4	570.5	235.95	3.418	
11,700.0	7,295.0	11,422.4	7,062.2	126.5	126.1	-73.15		159.7	-4,352.5	806.5	565.2	241.27	3.343	
11,800.0	7,295.0	11,522.4	7,061.9	129.2	128.8	-73.13		159.7	-4,452.5	806.6	560.0	246.58	3.271	
11,900.0	7,295.0	11,622.4	7,061.6	132.0	131.6	-73.11		159.7	-4,552.5	806.7	554.8	251.90	3.202	
12,000.0	7,295.0	11,722.4	7,061.4	134.8	134.4	-73.09		159.7	-4,652.5	806.7	549.5	257.22	3.136	
12,100.0	7,295.0	11,822.4	7,061.1	137.6	137.2	-73.07		159.7	-4,752.5	806.8	544.3	262.53	3.073	
12,200.0	7,295.0	11,922.4	7,060.9	140.3	140.0	-73.06		159.7	-4,852.5	806.9	539.0	267.85	3.012	
12,300.0	7,295.0	12,022.4	7,060.6	143.1	142.8	-73.04		159.7	-4,952.5	807.0	533.8	273.17	2.954	
12,400.0	7,295.0	12,122.4	7,060.3	145.9	145.6	-73.02		159.7	-5,052.5	807.0	528.6	278.49	2.898	
12,500.0	7,295.0	12,222.4	7,060.1	148.7	148.4	-73.00		159.7	-5,152.5	807.1	523.3	283.81	2.844	
12,600.0	7,295.0	12,322.4	7,059.8	151.5	151.1	-72.99		159.7	-5,252.5	807.2	518.1	289.14	2.792	
12,700.0	7,295.0	12,422.4	7,059.5	154.2	153.9	-72.97		159.7	-5,352.5	807.3	512.8	294.46	2.742	
12,800.0	7,295.0	12,522.4	7,059.3	157.0	156.7	-72.95		159.7	-5,452.5	807.4	507.6	299.78	2.693	
12,900.0	7,295.0	12,622.4	7,059.0	159.8	159.5	-72.93		159.7	-5,552.5	807.4	502.3	305.10	2.646	
13,000.0	7,295.0	12,722.4	7,058.8	162.6	162.3	-72.91		159.7	-5,652.5	807.5	497.1	310.42	2.601	
13,100.0	7,295.0	12,822.4	7,058.5	165.4	165.1	-72.90		159.7	-5,752.5	807.6	491.8	315.75	2.558	
13,200.0	7,295.0	12,922.4	7,058.2	168.2	167.9	-72.88		159.7	-5,852.5	807.7	486.6	321.07	2.516	
13,300.0	7,295.0	13,022.4	7,058.0	170.9	170.7	-72.86		159.7	-5,952.5	807.7	481.3	326.39	2.475	
13,400.0	7,295.0	13,122.4	7,057.7	173.7	173.5	-72.84		159.7	-6,052.5	807.8	476.1	331.71	2.435	
13,500.0	7,295.0	13,222.4	7,057.5	176.5	176.3	-72.83		159.7	-6,152.5	807.9	470.9	337.03	2.397	
13,600.0	7,295.0	13,322.4	7,057.2	179.3	179.1	-72.81		159.7	-6,252.5	808.0	465.6	342.36	2.360	
13,700.0	7,295.0	13,422.4	7,056.9	182.1	181.9	-72.79		159.7	-6,352.5	808.0	460.4	347.68	2.324	
13,800.0	7,295.0	13,522.4	7,056.7	184.9	184.7	-72.77		159.7	-6,452.5	808.1	455.1	353.00	2.289	
13,900.0	7,295.0	13,622.4	7,056.4	187.7	187.5	-72.76		159.7	-6,552.5	808.2	449.9	358.32	2.256	
14,000.0	7,295.0	13,722.4	7,056.1	190.5	190.2	-72.74		159.7	-6,652.5	808.3	444.6	363.64	2.223	
14,100.0	7,295.0	13,822.4	7,055.9	193.3	193.0	-72.72		159.7	-6,752.5	808.4	439.4	368.96	2.191	
14,200.0	7,295.0	13,922.4	7,055.6	196.1	195.8	-72.70		159.7	-6,852.5	808.4	434.2	374.28	2.160	
14,300.0	7,295.0	14,022.4	7,055.4	198.8	198.6	-72.68		159.7	-6,952.5	808.5	428.9	379.60	2.130	
14,400.0	7,295.0	14,122.4	7,055.1	201.6	201.4	-72.67		159.7	-7,052.5	808.6	423.7	384.92	2.101	
14,417.8	7,295.0	14,140.2	7,055.0	202.1	201.9	-72.66		159.7	-7,070.3	808.6	422.7	385.87	2.096	
14,443.7	7,295.0	14,158.7	7,055.0	202.9	202.4	-72.66		159.7	-7,088.7	808.7	421.6	387.05	2.089 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-180.00	-29.1	0.0	29.1	28.9	0.23	128.363	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-180.00	-29.1	0.0	29.1	28.5	0.68	43.072	
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-180.00	-29.1	0.0	29.1	28.0	1.13	25.878	
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-180.00	-29.1	0.0	29.1	27.6	1.58	18.495 CC	
500.0	500.0	501.0	501.0	1.0	1.0	162.87	162.87	-29.1	0.0	30.8	28.8	2.03	15.190	
600.0	599.8	600.8	600.8	1.2	1.2	165.31	165.31	-29.1	0.0	35.8	33.4	2.48	14.436	
700.0	699.5	701.9	701.9	1.5	1.5	167.43	167.43	-27.5	0.7	42.6	39.7	2.93	14.525	
800.0	798.7	803.2	803.1	1.7	1.7	168.54	168.54	-22.6	2.9	49.5	46.1	3.38	14.628	
900.0	897.5	904.8	904.2	2.0	1.9	168.99	168.99	-14.4	6.6	56.4	52.6	3.84	14.696	
1,000.0	995.9	1,006.5	1,005.2	2.4	2.2	168.76	168.76	-2.9	11.8	61.9	57.6	4.32	14.342	
1,100.0	1,094.4	1,106.5	1,104.1	2.7	2.5	168.15	168.15	9.9	17.4	65.8	61.0	4.80	13.707	
1,200.0	1,192.8	1,206.4	1,203.1	3.1	2.8	167.61	167.61	22.6	23.1	69.8	64.5	5.30	13.166	
1,300.0	1,291.2	1,306.3	1,302.0	3.5	3.1	167.13	167.13	35.4	28.8	73.7	67.9	5.80	12.705	
1,400.0	1,389.7	1,406.2	1,400.9	3.8	3.4	166.70	166.70	48.1	34.5	77.7	71.4	6.31	12.307	
1,500.0	1,488.1	1,506.1	1,499.9	4.2	3.7	166.31	166.31	60.9	40.2	81.6	74.8	6.82	11.964	
1,600.0	1,586.6	1,606.1	1,598.8	4.6	4.0	165.96	165.96	73.6	45.9	85.6	78.2	7.34	11.662	
1,700.0	1,685.0	1,706.0	1,697.8	5.0	4.3	165.64	165.64	86.3	51.6	89.5	81.7	7.86	11.395	
1,800.0	1,783.5	1,805.9	1,796.7	5.4	4.7	165.34	165.34	99.1	57.3	93.5	85.1	8.38	11.159	
1,900.0	1,881.9	1,905.8	1,895.6	5.7	5.0	165.07	165.07	111.8	63.0	97.5	88.6	8.90	10.947	
2,000.0	1,980.4	2,005.7	1,994.6	6.1	5.3	164.82	164.82	124.6	68.7	101.4	92.0	9.43	10.757	
2,100.0	2,078.8	2,105.7	2,093.5	6.5	5.6	164.59	164.59	137.3	74.4	105.4	95.5	9.96	10.586	
2,200.0	2,177.2	2,205.6	2,192.5	6.9	6.0	164.37	164.37	150.0	80.1	109.4	98.9	10.49	10.430	
2,300.0	2,275.7	2,305.5	2,291.4	7.3	6.3	164.17	164.17	162.8	85.8	113.4	102.3	11.02	10.288	
2,400.0	2,374.1	2,405.4	2,390.3	7.7	6.6	163.99	163.99	175.5	91.5	117.3	105.8	11.55	10.158	
2,500.0	2,472.6	2,505.3	2,489.3	8.1	7.0	163.82	163.82	188.3	97.2	121.3	109.2	12.08	10.039	
2,600.0	2,571.0	2,605.3	2,588.2	8.5	7.3	163.65	163.65	201.0	102.9	125.3	112.7	12.62	9.929	
2,700.0	2,669.5	2,705.2	2,687.2	8.8	7.6	163.50	163.50	213.8	108.6	129.3	116.1	13.15	9.828	
2,800.0	2,767.9	2,805.1	2,786.1	9.2	8.0	163.36	163.36	226.5	114.3	133.2	119.6	13.69	9.733	
2,900.0	2,866.4	2,905.0	2,885.0	9.6	8.3	163.22	163.22	239.2	120.0	137.2	123.0	14.23	9.646	
3,000.0	2,964.8	3,004.9	2,984.0	10.0	8.7	163.09	163.09	252.0	125.7	141.2	126.4	14.76	9.565	
3,100.0	3,063.2	3,104.9	3,082.9	10.4	9.0	162.97	162.97	264.7	131.4	145.2	129.9	15.30	9.488	
3,200.0	3,161.7	3,204.8	3,181.9	10.8	9.3	162.86	162.86	277.5	137.1	149.2	133.3	15.84	9.417	
3,300.0	3,260.1	3,304.7	3,280.8	11.2	9.7	162.75	162.75	290.2	142.8	153.2	136.8	16.38	9.350	
3,400.0	3,358.6	3,404.6	3,379.7	11.6	10.0	162.65	162.65	302.9	148.5	157.1	140.2	16.92	9.288	
3,500.0	3,457.0	3,504.5	3,478.7	12.0	10.3	162.55	162.55	315.7	154.2	161.1	143.7	17.46	9.229	
3,600.0	3,555.5	3,604.5	3,577.6	12.4	10.7	162.46	162.46	328.4	159.8	165.1	147.1	18.00	9.173	
3,700.0	3,653.9	3,704.4	3,676.6	12.8	11.0	162.37	162.37	341.2	165.5	169.1	150.5	18.54	9.120	
3,800.0	3,752.4	3,804.3	3,775.5	13.1	11.3	162.28	162.28	353.9	171.2	173.1	154.0	19.08	9.070	
3,900.0	3,850.8	3,904.2	3,874.5	13.5	11.7	162.20	162.20	366.7	176.9	177.1	157.4	19.62	9.023	
4,000.0	3,949.2	4,004.1	3,973.4	13.9	12.0	162.13	162.13	379.4	182.6	181.0	160.9	20.16	8.978	
4,100.0	4,047.7	4,104.1	4,072.3	14.3	12.4	162.05	162.05	392.1	188.3	185.0	164.3	20.71	8.936	
4,200.0	4,146.1	4,204.0	4,171.3	14.7	12.7	161.98	161.98	404.9	194.0	189.0	167.8	21.25	8.895	
4,300.0	4,244.6	4,303.9	4,270.2	15.1	13.0	161.91	161.91	417.6	199.7	193.0	171.2	21.79	8.857	
4,400.0	4,343.0	4,403.8	4,369.2	15.5	13.4	161.85	161.85	430.4	205.4	197.0	174.7	22.33	8.820	
4,500.0	4,441.5	4,503.7	4,468.1	15.9	13.7	161.79	161.79	443.1	211.1	201.0	178.1	22.88	8.785	
4,600.0	4,539.9	4,603.7	4,567.0	16.3	14.1	161.73	161.73	455.9	216.8	205.0	181.5	23.42	8.751	
4,700.0	4,638.4	4,703.6	4,666.0	16.7	14.4	161.67	161.67	468.6	222.5	208.9	185.0	23.96	8.719	
4,800.0	4,736.8	4,803.5	4,764.9	17.1	14.7	161.61	161.61	481.3	228.2	212.9	188.4	24.51	8.689	
4,900.0	4,835.2	4,903.4	4,863.9	17.5	15.1	161.56	161.56	494.1	233.9	216.9	191.9	25.05	8.659	
5,000.0	4,933.7	5,003.3	4,962.8	17.8	15.4	161.51	161.51	506.8	239.6	220.9	195.3	25.60	8.631	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,032.1	5,103.3	5,061.7	18.2	15.7	161.46	519.6	245.3	224.9	198.8	26.14	8.604	
5,200.0	5,130.6	5,203.2	5,160.7	18.6	16.1	161.41	532.3	251.0	228.9	202.2	26.68	8.578	
5,300.0	5,229.0	5,303.1	5,259.6	19.0	16.4	161.36	545.0	256.7	232.9	205.6	27.23	8.553	
5,400.0	5,327.5	5,403.0	5,358.6	19.4	16.8	161.32	557.8	262.4	236.9	209.1	27.77	8.529	
5,500.0	5,425.9	5,502.9	5,457.5	19.8	17.1	161.28	570.5	268.1	240.8	212.5	28.32	8.505	
5,600.0	5,524.4	5,602.9	5,556.4	20.2	17.4	161.23	583.3	273.8	244.8	216.0	28.86	8.483	
5,700.0	5,622.8	5,702.8	5,655.4	20.6	17.8	161.19	596.0	279.5	248.8	219.4	29.41	8.461	
5,800.0	5,721.3	5,802.7	5,754.3	21.0	18.1	161.15	608.8	285.2	252.8	222.9	29.95	8.441	
5,900.0	5,819.7	5,902.6	5,853.3	21.4	18.5	161.12	621.5	290.9	256.8	226.3	30.50	8.421	
6,000.0	5,918.2	6,000.0	5,949.7	21.8	18.8	161.12	633.5	296.2	261.1	230.1	31.01	8.420	
6,100.0	6,017.0	6,090.7	6,039.9	22.0	19.0	161.23	642.3	300.2	265.8	234.4	31.39	8.467	
6,200.0	6,116.3	6,182.8	6,131.7	22.3	19.2	161.38	648.6	303.0	270.0	238.3	31.71	8.516	
6,300.0	6,216.0	6,274.8	6,223.6	22.5	19.3	161.57	652.2	304.6	273.9	241.9	31.97	8.566	
6,400.0	6,315.9	6,368.0	6,316.9	22.7	19.5	161.79	653.1	305.0	277.3	245.1	32.18	8.617	
6,500.0	6,415.9	6,468.0	6,416.9	22.8	19.6	-180.00	653.1	305.0	278.5	237.4	41.06	6.782	
6,528.1	6,444.0	6,496.1	6,445.0	22.8	19.6	-179.90	653.1	304.5	278.5	237.3	41.15	6.767	
6,600.0	6,515.9	6,567.4	6,516.0	22.9	19.7	-178.70	653.1	298.7	278.5	237.1	41.49	6.714	
6,700.0	6,615.6	6,664.9	6,611.6	23.0	19.8	-85.97	653.1	280.0	279.2	246.8	32.42	8.612	
6,800.0	6,713.8	6,760.7	6,702.5	23.1	19.8	-83.34	653.1	249.9	280.4	248.1	32.24	8.696	
6,900.0	6,808.6	6,855.1	6,787.8	23.1	19.8	-80.87	653.1	209.4	282.1	250.0	32.12	8.782	
7,000.0	6,898.5	6,948.3	6,866.3	23.1	19.7	-78.57	653.1	159.5	284.2	252.1	32.10	8.851	
7,100.0	6,982.0	7,040.2	6,937.3	23.0	19.7	-76.50	653.1	101.1	286.5	254.2	32.25	8.882	
7,200.0	7,057.6	7,131.2	7,000.2	23.0	19.7	-74.67	653.1	35.4	288.8	256.2	32.63	8.852	
7,300.0	7,124.0	7,221.4	7,054.3	23.0	19.7	-73.10	653.1	-36.5	291.1	257.8	33.32	8.737	
7,400.0	7,180.1	7,310.8	7,099.3	23.0	19.7	-71.80	653.1	-113.8	293.2	258.9	34.32	8.542	
7,500.0	7,224.9	7,400.0	7,134.9	23.2	20.1	-70.78	653.1	-195.5	294.9	259.2	35.78	8.244	
7,600.0	7,257.7	7,488.0	7,160.4	23.5	21.0	-70.05	653.1	-279.8	296.3	258.6	37.68	7.863	
7,700.0	7,277.9	7,576.2	7,176.1	24.3	22.3	-69.60	653.1	-366.4	297.1	257.1	40.01	7.426	
7,800.0	7,288.8	7,664.0	7,181.7	25.5	23.8	-68.88	653.1	-454.0	298.7	255.9	42.85	6.971	
7,900.0	7,294.8	7,762.5	7,181.3	27.2	25.7	-67.64	653.1	-552.5	301.1	255.4	45.76	6.580	
8,000.0	7,295.0	7,862.5	7,180.7	29.1	27.8	-67.51	653.1	-652.5	301.4	251.9	49.52	6.086	
8,100.0	7,295.0	7,962.5	7,180.2	31.1	30.0	-67.42	653.1	-752.5	301.6	248.0	53.57	5.629	
8,200.0	7,295.0	8,062.5	7,179.7	33.3	32.3	-67.33	653.1	-852.5	301.8	244.0	57.80	5.221	
8,300.0	7,295.0	8,162.5	7,179.2	35.6	34.6	-67.24	653.1	-952.5	302.0	239.8	62.17	4.858	
8,400.0	7,295.0	8,262.5	7,178.6	37.9	37.1	-67.15	653.1	-1,052.5	302.2	235.5	66.64	4.534	
8,500.0	7,295.0	8,362.5	7,178.1	40.4	39.5	-67.05	653.1	-1,152.5	302.4	231.2	71.21	4.247	
8,600.0	7,295.0	8,462.5	7,177.6	42.8	42.1	-66.96	653.1	-1,252.5	302.6	226.8	75.84	3.990	
8,700.0	7,295.0	8,562.5	7,177.1	45.3	44.6	-66.87	653.1	-1,352.5	302.8	222.3	80.53	3.760	
8,800.0	7,295.0	8,662.5	7,176.5	47.9	47.2	-66.78	653.1	-1,452.5	303.0	217.7	85.27	3.554	
8,900.0	7,295.0	8,762.5	7,176.0	50.4	49.8	-66.69	653.1	-1,552.5	303.2	213.2	90.04	3.368	
9,000.0	7,295.0	8,862.5	7,175.5	53.0	52.4	-66.60	653.1	-1,652.5	303.4	208.6	94.84	3.199	
9,100.0	7,295.0	8,962.5	7,175.0	55.6	55.0	-66.51	653.1	-1,752.5	303.6	204.0	99.67	3.046	
9,200.0	7,295.0	9,062.5	7,174.4	58.3	57.7	-66.42	653.1	-1,852.5	303.8	199.3	104.53	2.907	
9,300.0	7,295.0	9,162.5	7,173.9	60.9	60.4	-66.33	653.1	-1,952.5	304.1	194.7	109.39	2.779	
9,400.0	7,295.0	9,262.4	7,173.4	63.6	63.0	-66.24	653.1	-2,052.4	304.3	190.0	114.28	2.663	
9,500.0	7,295.0	9,362.4	7,172.9	66.2	65.7	-66.15	653.1	-2,152.4	304.5	185.3	119.17	2.555	
9,600.0	7,295.0	9,462.4	7,172.4	68.9	68.4	-66.06	653.1	-2,252.4	304.7	180.6	124.07	2.456	
9,700.0	7,295.0	9,562.4	7,171.8	71.6	71.1	-65.97	653.1	-2,352.4	304.9	175.9	128.98	2.364	
9,800.0	7,295.0	9,662.4	7,171.3	74.3	73.9	-65.88	653.1	-2,452.4	305.1	171.2	133.90	2.279	
9,900.0	7,295.0	9,762.4	7,170.8	77.0	76.6	-65.79	653.1	-2,552.4	305.3	166.5	138.82	2.199	
10,000.0	7,295.0	9,862.4	7,170.3	79.7	79.3	-65.70	653.1	-2,652.4	305.5	161.8	143.74	2.126	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
10,100.0	7,295.0	9,962.4	7,169.7	82.4	82.0	-65.61	653.1	-2,752.4	305.8	157.1	148.67	2.057	
10,200.0	7,295.0	10,062.4	7,169.2	85.2	84.8	-65.52	653.1	-2,852.4	306.0	152.4	153.59	1.992	
10,300.0	7,295.0	10,162.4	7,168.7	87.9	87.5	-65.43	653.1	-2,952.4	306.2	147.7	158.52	1.932	
10,400.0	7,295.0	10,262.4	7,168.2	90.6	90.3	-65.34	653.1	-3,052.4	306.4	143.0	163.45	1.875	
10,500.0	7,295.0	10,362.4	7,167.6	93.4	93.0	-65.25	653.1	-3,152.4	306.6	138.3	168.37	1.821	
10,600.0	7,295.0	10,462.4	7,167.1	96.1	95.8	-65.16	653.1	-3,252.4	306.8	133.5	173.30	1.771	
10,700.0	7,295.0	10,562.4	7,166.6	98.9	98.5	-65.07	653.1	-3,352.4	307.1	128.8	178.22	1.723	
10,800.0	7,295.0	10,662.4	7,166.1	101.6	101.3	-64.99	653.1	-3,452.4	307.3	124.1	183.14	1.678	
10,900.0	7,295.0	10,762.4	7,165.5	104.4	104.0	-64.90	653.1	-3,552.4	307.5	119.5	188.06	1.635	
11,000.0	7,295.0	10,862.4	7,165.0	107.1	106.8	-64.81	653.1	-3,652.4	307.7	114.8	192.97	1.595	
11,100.0	7,295.0	10,962.4	7,164.5	109.9	109.6	-64.72	653.1	-3,752.4	308.0	110.1	197.89	1.556	
11,200.0	7,295.0	11,062.4	7,164.0	112.6	112.3	-64.63	653.1	-3,852.4	308.2	105.4	202.79	1.520	
11,300.0	7,295.0	11,162.4	7,163.5	115.4	115.1	-64.55	653.1	-3,952.4	308.4	100.7	207.70	1.485 Level 3	
11,400.0	7,295.0	11,262.4	7,162.9	118.2	117.9	-64.46	653.1	-4,052.4	308.6	96.0	212.60	1.452 Level 3	
11,500.0	7,295.0	11,362.4	7,162.4	120.9	120.6	-64.37	653.1	-4,152.4	308.9	91.4	217.49	1.420 Level 3	
11,600.0	7,295.0	11,462.4	7,161.9	123.7	123.4	-64.28	653.1	-4,252.4	309.1	86.7	222.38	1.390 Level 3	
11,700.0	7,295.0	11,562.4	7,161.4	126.5	126.2	-64.20	653.1	-4,352.4	309.3	82.0	227.27	1.361 Level 3	
11,800.0	7,295.0	11,662.4	7,160.8	129.2	129.0	-64.11	653.1	-4,452.4	309.5	77.4	232.15	1.333 Level 3	
11,900.0	7,295.0	11,762.4	7,160.3	132.0	131.8	-64.02	653.1	-4,552.4	309.8	72.7	237.02	1.307 Level 3	
12,000.0	7,295.0	11,862.4	7,159.8	134.8	134.5	-63.93	653.1	-4,652.4	310.0	68.1	241.89	1.282 Level 3	
12,100.0	7,295.0	11,962.4	7,159.3	137.6	137.3	-63.85	653.1	-4,752.4	310.2	63.5	246.76	1.257 Level 3	
12,200.0	7,295.0	12,062.4	7,158.7	140.3	140.1	-63.76	653.1	-4,852.4	310.5	58.8	251.62	1.234 Level 2	
12,300.0	7,295.0	12,162.4	7,158.2	143.1	142.9	-63.67	653.1	-4,952.4	310.7	54.2	256.47	1.211 Level 2	
12,400.0	7,295.0	12,262.4	7,157.7	145.9	145.7	-63.59	653.1	-5,052.4	310.9	49.6	261.32	1.190 Level 2	
12,500.0	7,295.0	12,362.4	7,157.2	148.7	148.4	-63.50	653.1	-5,152.4	311.2	45.0	266.16	1.169 Level 2	
12,600.0	7,295.0	12,462.4	7,156.6	151.5	151.2	-63.41	653.1	-5,252.4	311.4	40.4	271.00	1.149 Level 2	
12,700.0	7,295.0	12,562.4	7,156.1	154.2	154.0	-63.33	653.1	-5,352.4	311.6	35.8	275.83	1.130 Level 2	
12,800.0	7,295.0	12,662.4	7,155.6	157.0	156.8	-63.24	653.1	-5,452.4	311.9	31.2	280.66	1.111 Level 2	
12,900.0	7,295.0	12,762.4	7,155.1	159.8	159.6	-63.16	653.1	-5,552.4	312.1	26.6	285.47	1.093 Level 2	
13,000.0	7,295.0	12,862.4	7,154.5	162.6	162.4	-63.07	653.1	-5,652.4	312.3	22.0	290.29	1.076 Level 2	
13,100.0	7,295.0	12,962.4	7,154.0	165.4	165.2	-62.99	653.1	-5,752.3	312.6	17.5	295.09	1.059 Level 2	
13,200.0	7,295.0	13,062.4	7,153.5	168.2	168.0	-62.90	653.1	-5,852.3	312.8	12.9	299.89	1.043 Level 2	
13,300.0	7,295.0	13,162.4	7,153.0	170.9	170.8	-62.81	653.1	-5,952.3	313.0	8.4	304.68	1.027 Level 2	
13,400.0	7,295.0	13,262.4	7,152.5	173.7	173.5	-62.73	653.1	-6,052.3	313.3	3.8	309.47	1.012 Level 2	
13,500.0	7,295.0	13,362.4	7,151.9	176.5	176.3	-62.64	653.1	-6,152.3	313.5	-0.7	314.25	0.998 Level 1	
13,600.0	7,295.0	13,462.4	7,151.4	179.3	179.1	-62.56	653.1	-6,252.3	313.8	-5.3	319.02	0.984 Level 1	
13,700.0	7,295.0	13,562.4	7,150.9	182.1	181.9	-62.47	653.1	-6,352.3	314.0	-9.8	323.79	0.970 Level 1	
13,800.0	7,295.0	13,662.4	7,150.4	184.9	184.7	-62.39	653.1	-6,452.3	314.3	-14.3	328.55	0.956 Level 1	
13,900.0	7,295.0	13,762.4	7,149.8	187.7	187.5	-62.31	653.1	-6,552.3	314.5	-18.8	333.31	0.944 Level 1	
14,000.0	7,295.0	13,862.4	7,149.3	190.5	190.3	-62.22	653.1	-6,652.3	314.7	-23.3	338.05	0.931 Level 1	
14,100.0	7,295.0	13,962.4	7,148.8	193.3	193.1	-62.14	653.1	-6,752.3	315.0	-27.8	342.79	0.919 Level 1	
14,200.0	7,295.0	14,062.4	7,148.3	196.1	195.9	-62.05	653.1	-6,852.3	315.2	-32.3	347.53	0.907 Level 1	
14,300.0	7,295.0	14,162.4	7,147.7	198.8	198.7	-61.97	653.1	-6,952.3	315.5	-36.8	352.25	0.896 Level 1	
14,400.0	7,295.0	14,262.4	7,147.2	201.6	201.5	-61.89	653.1	-7,052.3	315.7	-41.2	356.97	0.884 Level 1	
14,443.7	7,295.0	14,304.2	7,147.0	202.9	202.6	-61.85	653.1	-7,094.1	315.8	-43.2	358.99	0.880 Level 1, ES, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	180.00	180.00	-58.3	0.0	58.3	58.3	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	180.00	180.00	-58.3	0.0	58.3	58.1	0.23	256.744	
200.0	200.0	201.0	201.0	0.3	0.3	180.00	180.00	-58.3	0.0	58.3	57.6	0.68	86.150	
300.0	300.0	301.0	301.0	0.6	0.6	180.00	180.00	-58.3	0.0	58.3	57.2	1.13	51.759	
400.0	400.0	401.0	401.0	0.8	0.8	180.00	180.00	-58.3	0.0	58.3	56.7	1.58	36.992 CC, ES	
500.0	500.0	501.0	501.0	1.0	1.0	162.38	162.38	-58.3	0.0	59.9	57.9	2.03	29.561	
600.0	599.8	600.8	600.8	1.2	1.2	163.75	163.75	-58.3	0.0	65.0	62.5	2.48	26.164	
700.0	699.5	700.5	700.5	1.5	1.5	165.61	165.61	-58.3	0.0	73.4	70.4	2.94	24.974	
800.0	798.7	799.7	799.7	1.7	1.7	167.60	167.60	-58.3	0.0	85.2	81.8	3.39	25.121	
900.0	897.5	898.5	898.5	2.0	1.9	169.45	169.45	-58.3	0.0	100.6	96.7	3.85	26.138	
1,000.0	995.9	996.9	996.9	2.4	2.1	171.01	171.01	-58.3	0.0	117.9	113.6	4.30	27.392	
1,100.0	1,094.4	1,099.2	1,099.2	2.7	2.4	171.81	171.81	-57.0	1.2	133.9	129.1	4.76	28.100	
1,200.0	1,192.8	1,202.6	1,202.4	3.1	2.6	171.64	171.64	-53.1	4.9	147.0	141.7	5.23	28.095	
1,300.0	1,291.2	1,306.6	1,306.0	3.5	2.8	170.73	170.73	-46.4	11.3	157.1	151.3	5.71	27.494	
1,400.0	1,389.7	1,407.9	1,406.7	3.8	3.1	169.36	169.36	-37.8	19.6	164.8	158.6	6.21	26.562	
1,500.0	1,488.1	1,507.6	1,505.6	4.2	3.3	168.08	168.08	-29.2	27.8	172.5	165.8	6.71	25.712	
1,600.0	1,586.6	1,607.2	1,604.5	4.6	3.6	166.92	166.92	-20.6	36.1	180.3	173.1	7.22	24.958	
1,700.0	1,685.0	1,706.8	1,703.4	5.0	3.9	165.85	165.85	-11.9	44.3	188.1	180.4	7.75	24.285	
1,800.0	1,783.5	1,806.5	1,802.3	5.4	4.1	164.87	164.87	-3.3	52.6	196.0	187.8	8.28	23.685	
1,900.0	1,881.9	1,906.1	1,901.2	5.7	4.4	163.97	163.97	5.3	60.8	204.0	195.2	8.81	23.144	
2,000.0	1,980.4	2,005.8	2,000.2	6.1	4.7	163.13	163.13	13.9	69.1	212.0	202.6	9.36	22.655	
2,100.0	2,078.8	2,105.4	2,099.1	6.5	5.0	162.36	162.36	22.6	77.3	220.0	210.1	9.90	22.211	
2,200.0	2,177.2	2,205.0	2,198.0	6.9	5.3	161.63	161.63	31.2	85.6	228.1	217.6	10.46	21.808	
2,300.0	2,275.7	2,304.7	2,296.9	7.3	5.6	160.96	160.96	39.8	93.8	236.2	225.2	11.02	21.439	
2,400.0	2,374.1	2,404.3	2,395.8	7.7	5.9	160.33	160.33	48.5	102.1	244.3	232.7	11.58	21.100	
2,500.0	2,472.6	2,503.9	2,494.7	8.1	6.2	159.75	159.75	57.1	110.3	252.5	240.3	12.14	20.790	
2,600.0	2,571.0	2,603.6	2,593.7	8.5	6.5	159.20	159.20	65.7	118.6	260.7	248.0	12.71	20.503	
2,700.0	2,669.5	2,703.2	2,692.6	8.8	6.8	158.68	158.68	74.3	126.8	268.9	255.6	13.29	20.238	
2,800.0	2,767.9	2,802.8	2,791.5	9.2	7.1	158.20	158.20	83.0	135.1	277.1	263.2	13.86	19.992	
2,900.0	2,866.4	2,902.5	2,890.4	9.6	7.4	157.74	157.74	91.6	143.4	285.4	270.9	14.44	19.764	
3,000.0	2,964.8	3,002.1	2,989.3	10.0	7.7	157.31	157.31	100.2	151.6	293.6	278.6	15.02	19.552	
3,100.0	3,063.2	3,101.7	3,088.2	10.4	8.0	156.90	156.90	108.9	159.9	301.9	286.3	15.60	19.353	
3,200.0	3,161.7	3,201.4	3,187.1	10.8	8.3	156.51	156.51	117.5	168.1	310.2	294.0	16.18	19.168	
3,300.0	3,260.1	3,301.0	3,286.1	11.2	8.6	156.14	156.14	126.1	176.4	318.5	301.7	16.77	18.994	
3,400.0	3,358.6	3,400.6	3,385.0	11.6	8.9	155.80	155.80	134.8	184.6	326.8	309.5	17.36	18.831	
3,500.0	3,457.0	3,500.3	3,483.9	12.0	9.2	155.47	155.47	143.4	192.9	335.2	317.2	17.95	18.678	
3,600.0	3,555.5	3,599.9	3,582.8	12.4	9.5	155.15	155.15	152.0	201.1	343.5	325.0	18.54	18.533	
3,700.0	3,653.9	3,699.5	3,681.7	12.8	9.8	154.85	154.85	160.6	209.4	351.9	332.7	19.13	18.397	
3,800.0	3,752.4	3,799.2	3,780.6	13.1	10.2	154.57	154.57	169.3	217.6	360.2	340.5	19.72	18.268	
3,900.0	3,850.8	3,898.8	3,879.6	13.5	10.5	154.29	154.29	177.9	225.9	368.6	348.3	20.31	18.146	
4,000.0	3,949.2	3,998.4	3,978.5	13.9	10.8	154.03	154.03	186.5	234.1	377.0	356.1	20.91	18.031	
4,100.0	4,047.7	4,098.1	4,077.4	14.3	11.1	153.78	153.78	195.2	242.4	385.4	363.9	21.50	17.922	
4,200.0	4,146.1	4,197.7	4,176.3	14.7	11.4	153.54	153.54	203.8	250.6	393.8	371.7	22.10	17.818	
4,300.0	4,244.6	4,297.3	4,275.2	15.1	11.7	153.32	153.32	212.4	258.9	402.2	379.5	22.70	17.719	
4,400.0	4,343.0	4,397.0	4,374.1	15.5	12.0	153.10	153.10	221.0	267.2	410.6	387.3	23.30	17.625	
4,500.0	4,441.5	4,496.6	4,473.1	15.9	12.3	152.89	152.89	229.7	275.4	419.0	395.1	23.89	17.535	
4,600.0	4,539.9	4,596.2	4,572.0	16.3	12.6	152.68	152.68	238.3	283.7	427.4	402.9	24.49	17.449	
4,700.0	4,638.4	4,694.7	4,669.7	16.7	12.9	152.50	152.50	246.8	291.8	435.8	410.8	25.09	17.374	
4,800.0	4,736.8	4,785.7	4,760.3	17.1	13.1	152.52	152.52	253.4	298.1	445.5	419.9	25.56	17.426	
4,900.0	4,835.2	4,876.4	4,850.7	17.5	13.3	152.83	152.83	257.8	302.3	457.1	431.1	25.99	17.586	
5,000.0	4,933.7	4,966.4	4,940.7	17.8	13.5	153.40	153.40	260.2	304.6	470.6	444.2	26.37	17.848	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,032.1	5,058.8	5,033.1	18.2	13.6	154.21		260.6	305.0	486.0	459.3	26.71	18.196	
5,200.0	5,130.6	5,157.3	5,131.6	18.6	13.8	155.08		260.6	305.0	501.9	474.8	27.06	18.544	
5,300.0	5,229.0	5,255.7	5,230.0	19.0	14.0	155.89		260.6	305.0	517.9	490.5	27.44	18.878	
5,400.0	5,327.5	5,354.2	5,328.5	19.4	14.1	156.66		260.6	305.0	534.0	506.2	27.81	19.201	
5,500.0	5,425.9	5,452.6	5,426.9	19.8	14.3	157.39		260.6	305.0	550.2	522.1	28.19	19.516	
5,600.0	5,524.4	5,551.1	5,525.4	20.2	14.5	158.07		260.6	305.0	566.5	538.0	28.58	19.822	
5,700.0	5,622.8	5,649.5	5,623.8	20.6	14.7	158.71		260.6	305.0	582.9	553.9	28.97	20.118	
5,800.0	5,721.3	5,748.0	5,722.3	21.0	14.9	159.32		260.6	305.0	599.3	570.0	29.37	20.406	
5,900.0	5,819.7	5,846.4	5,820.7	21.4	15.0	159.90		260.6	305.0	615.8	586.1	29.77	20.686	
6,000.0	5,918.2	5,944.9	5,919.2	21.8	15.2	160.46		260.6	305.0	632.3	602.1	30.18	20.955	
6,100.0	6,017.0	6,043.7	6,018.0	22.0	15.4	161.00		260.6	305.0	646.6	616.0	30.55	21.168	
6,200.0	6,116.3	6,143.0	6,117.3	22.3	15.6	161.41		260.6	305.0	657.6	626.7	30.90	21.285	
6,300.0	6,216.0	6,242.7	6,217.0	22.5	15.8	161.68		260.6	305.0	665.4	634.1	31.22	21.310	
6,400.0	6,315.9	6,342.6	6,316.9	22.7	16.0	161.83		260.6	305.0	669.8	638.3	31.53	21.247	
6,500.0	6,415.9	6,442.6	6,416.9	22.8	16.2	180.00		260.6	305.0	671.0	633.6	37.41	17.937	
6,600.0	6,515.9	6,542.6	6,516.9	22.9	16.4	180.00		260.6	305.0	671.0	633.2	37.75	17.776	
6,700.0	6,615.6	6,642.1	6,616.2	23.0	16.5	-89.99		260.6	299.1	671.0	638.5	32.50	20.647	
6,800.0	6,713.8	6,741.7	6,713.9	23.1	16.6	-89.98		260.5	280.3	671.1	638.4	32.67	20.544	
6,900.0	6,808.6	6,841.2	6,808.3	23.1	16.6	-89.97		260.3	249.0	671.3	638.5	32.76	20.490	
7,000.0	6,898.5	6,940.7	6,897.8	23.1	16.6	-89.96		260.1	205.7	671.5	638.7	32.85	20.444	
7,100.0	6,982.0	7,040.3	6,981.0	23.0	16.6	-89.95		259.8	151.2	671.8	638.8	33.03	20.340	
7,200.0	7,057.6	7,139.9	7,056.4	23.0	16.6	-89.94		259.5	86.2	672.1	638.7	33.44	20.099	
7,300.0	7,124.0	7,239.5	7,122.7	23.0	16.7	-89.93		259.1	12.0	672.5	638.3	34.24	19.643	
7,400.0	7,180.1	7,339.1	7,178.9	23.0	17.3	-89.93		258.7	-70.2	672.9	637.4	35.55	18.929	
7,500.0	7,224.9	7,438.8	7,223.9	23.2	18.3	-89.92		258.2	-159.1	673.4	635.9	37.47	17.971	
7,600.0	7,257.7	7,538.5	7,256.9	23.5	19.6	-89.92		257.7	-253.1	673.9	633.8	40.01	16.842	
7,700.0	7,277.9	7,638.3	7,277.5	24.3	21.2	-89.92		257.2	-350.6	674.4	631.3	43.11	15.643	
7,800.0	7,288.8	7,738.2	7,288.4	25.5	23.0	-89.92		256.7	-450.0	674.9	628.2	46.66	14.463	
7,900.0	7,294.8	7,838.1	7,294.8	27.2	25.0	-89.91		256.2	-549.6	675.4	624.8	50.57	13.356	
8,000.0	7,295.0	7,938.1	7,295.0	29.1	27.2	-89.92		255.7	-649.6	675.9	621.1	54.75	12.345	
8,100.0	7,295.0	8,038.1	7,295.0	31.1	29.4	-89.92		255.2	-749.6	676.4	617.3	59.16	11.433	
8,200.0	7,295.0	8,138.1	7,295.0	33.3	31.7	-89.92		254.7	-849.6	676.9	613.2	63.76	10.617	
8,300.0	7,295.0	8,238.1	7,295.0	35.6	34.1	-89.92		254.2	-949.6	677.4	608.9	68.51	9.888	
8,400.0	7,295.0	8,338.1	7,295.0	37.9	36.5	-89.92		253.7	-1,049.6	678.0	604.6	73.38	9.239	
8,500.0	7,295.0	8,438.1	7,295.0	40.4	39.0	-89.92		253.1	-1,149.6	678.5	600.1	78.35	8.659	
8,600.0	7,295.0	8,538.1	7,295.0	42.8	41.6	-89.92		252.6	-1,249.6	679.0	595.6	83.41	8.140	
8,700.0	7,295.0	8,638.1	7,295.0	45.3	44.1	-89.92		252.1	-1,349.6	679.5	591.0	88.53	7.675	
8,800.0	7,295.0	8,738.1	7,295.0	47.9	46.7	-89.92		251.6	-1,449.6	680.0	586.3	93.71	7.257	
8,900.0	7,295.0	8,838.1	7,295.0	50.4	49.4	-89.92		251.1	-1,549.6	680.5	581.6	98.93	6.879	
9,000.0	7,295.0	8,938.1	7,295.0	53.0	52.0	-89.92		250.6	-1,649.6	681.0	576.8	104.20	6.536	
9,100.0	7,295.0	9,038.1	7,295.0	55.6	54.7	-89.92		250.1	-1,749.6	681.5	572.1	109.50	6.224	
9,200.0	7,295.0	9,138.1	7,295.0	58.3	57.3	-89.92		249.5	-1,849.6	682.1	567.2	114.82	5.940	
9,300.0	7,295.0	9,238.1	7,295.0	60.9	60.0	-89.92		249.0	-1,949.6	682.6	562.4	120.18	5.680	
9,400.0	7,295.0	9,338.1	7,295.0	63.6	62.7	-89.92		248.5	-2,049.6	683.1	557.5	125.56	5.440	
9,500.0	7,295.0	9,438.1	7,295.0	66.2	65.4	-89.92		248.0	-2,149.6	683.6	552.7	130.95	5.220	
9,600.0	7,295.0	9,538.1	7,295.0	68.9	68.1	-89.92		247.5	-2,249.6	684.1	547.7	136.37	5.017	
9,700.0	7,295.0	9,638.1	7,295.0	71.6	70.8	-89.92		247.0	-2,349.6	684.6	542.8	141.80	4.828	
9,800.0	7,295.0	9,738.1	7,295.0	74.3	73.6	-89.92		246.5	-2,449.6	685.1	537.9	147.24	4.653	
9,900.0	7,295.0	9,838.1	7,295.0	77.0	76.3	-89.92		245.9	-2,549.6	685.7	533.0	152.70	4.490	
10,000.0	7,295.0	9,938.1	7,295.0	79.7	79.0	-89.92		245.4	-2,649.6	686.2	528.0	158.17	4.338	
10,100.0	7,295.0	10,038.1	7,295.0	82.4	81.8	-89.92		244.9	-2,749.6	686.7	523.0	163.64	4.196	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,295.0	10,138.1	7,295.0	85.2	84.5	-89.92	-89.92	244.4	-2,849.6	687.2	518.1	169.13	4.063	
10,300.0	7,295.0	10,238.1	7,295.0	87.9	87.3	-89.92	-89.92	243.9	-2,949.6	687.7	513.1	174.62	3.938	
10,400.0	7,295.0	10,338.1	7,295.0	90.6	90.0	-89.92	-89.92	243.4	-3,049.6	688.2	508.1	180.12	3.821	
10,500.0	7,295.0	10,438.1	7,295.0	93.4	92.8	-89.92	-89.92	242.9	-3,149.6	688.7	503.1	185.63	3.710	
10,600.0	7,295.0	10,538.1	7,295.0	96.1	95.5	-89.92	-89.92	242.4	-3,249.5	689.3	498.1	191.15	3.606	
10,700.0	7,295.0	10,638.1	7,295.0	98.9	98.3	-89.92	-89.92	241.8	-3,349.5	689.8	493.1	196.67	3.507	
10,800.0	7,295.0	10,738.1	7,295.0	101.6	101.0	-89.92	-89.92	241.3	-3,449.5	690.3	488.1	202.19	3.414	
10,900.0	7,295.0	10,838.1	7,295.0	104.4	103.8	-89.92	-89.92	240.8	-3,549.5	690.8	483.1	207.72	3.326	
11,000.0	7,295.0	10,938.1	7,295.0	107.1	106.6	-89.92	-89.92	240.3	-3,649.5	691.3	478.1	213.25	3.242	
11,100.0	7,295.0	11,038.1	7,295.0	109.9	109.3	-89.92	-89.92	239.8	-3,749.5	691.8	473.0	218.79	3.162	
11,200.0	7,295.0	11,138.1	7,295.0	112.6	112.1	-89.92	-89.92	239.3	-3,849.5	692.3	468.0	224.33	3.086	
11,300.0	7,295.0	11,238.1	7,295.0	115.4	114.9	-89.92	-89.92	238.8	-3,949.5	692.9	463.0	229.88	3.014	
11,400.0	7,295.0	11,338.1	7,295.0	118.2	117.7	-89.92	-89.92	238.2	-4,049.5	693.4	457.9	235.43	2.945	
11,500.0	7,295.0	11,438.1	7,295.0	120.9	120.4	-89.92	-89.92	237.7	-4,149.5	693.9	452.9	240.98	2.879	
11,600.0	7,295.0	11,538.1	7,295.0	123.7	123.2	-89.92	-89.92	237.2	-4,249.5	694.4	447.9	246.53	2.817	
11,700.0	7,295.0	11,638.1	7,295.0	126.5	126.0	-89.92	-89.92	236.7	-4,349.5	694.9	442.8	252.09	2.757	
11,800.0	7,295.0	11,738.1	7,295.0	129.2	128.8	-89.92	-89.92	236.2	-4,449.5	695.4	437.8	257.65	2.699	
11,900.0	7,295.0	11,838.1	7,295.0	132.0	131.6	-89.92	-89.92	235.7	-4,549.5	695.9	432.7	263.21	2.644	
12,000.0	7,295.0	11,938.1	7,295.0	134.8	134.3	-89.92	-89.92	235.2	-4,649.5	696.4	427.7	268.77	2.591	
12,100.0	7,295.0	12,038.0	7,295.0	137.6	137.1	-89.92	-89.92	234.6	-4,749.5	697.0	422.6	274.34	2.541	
12,200.0	7,295.0	12,138.0	7,295.0	140.3	139.9	-89.92	-89.92	234.1	-4,849.5	697.5	417.6	279.90	2.492	
12,300.0	7,295.0	12,238.0	7,295.0	143.1	142.7	-89.92	-89.92	233.6	-4,949.5	698.0	412.5	285.47	2.445	
12,400.0	7,295.0	12,338.0	7,295.0	145.9	145.5	-89.92	-89.92	233.1	-5,049.5	698.5	407.5	291.04	2.400	
12,500.0	7,295.0	12,438.0	7,295.0	148.7	148.3	-89.92	-89.92	232.6	-5,149.5	699.0	402.4	296.62	2.357	
12,600.0	7,295.0	12,538.0	7,295.0	151.5	151.0	-89.92	-89.92	232.1	-5,249.5	699.5	397.3	302.19	2.315	
12,700.0	7,295.0	12,638.0	7,295.0	154.2	153.8	-89.92	-89.92	231.6	-5,349.5	700.0	392.3	307.76	2.275	
12,800.0	7,295.0	12,738.0	7,295.0	157.0	156.6	-89.92	-89.92	231.1	-5,449.5	700.6	387.2	313.34	2.236	
12,900.0	7,295.0	12,838.0	7,295.0	159.8	159.4	-89.92	-89.92	230.5	-5,549.5	701.1	382.2	318.92	2.198	
13,000.0	7,295.0	12,938.0	7,295.0	162.6	162.2	-89.92	-89.92	230.0	-5,649.5	701.6	377.1	324.50	2.162	
13,100.0	7,295.0	13,038.0	7,295.0	165.4	165.0	-89.92	-89.92	229.5	-5,749.5	702.1	372.0	330.08	2.127	
13,200.0	7,295.0	13,138.0	7,295.0	168.2	167.8	-89.92	-89.92	229.0	-5,849.5	702.6	367.0	335.66	2.093	
13,300.0	7,295.0	13,238.0	7,295.0	170.9	170.6	-89.92	-89.92	228.5	-5,949.5	703.1	361.9	341.24	2.060	
13,400.0	7,295.0	13,338.0	7,295.0	173.7	173.4	-89.92	-89.92	228.0	-6,049.5	703.6	356.8	346.82	2.029	
13,500.0	7,295.0	13,438.0	7,295.0	176.5	176.2	-89.92	-89.92	227.5	-6,149.5	704.2	351.7	352.41	1.998	
13,600.0	7,295.0	13,538.0	7,295.0	179.3	178.9	-89.92	-89.92	226.9	-6,249.5	704.7	346.7	357.99	1.968	
13,700.0	7,295.0	13,638.0	7,295.0	182.1	181.7	-89.92	-89.92	226.4	-6,349.5	705.2	341.6	363.58	1.940	
13,800.0	7,295.0	13,738.0	7,295.0	184.9	184.5	-89.92	-89.92	225.9	-6,449.5	705.7	336.5	369.17	1.912	
13,900.0	7,295.0	13,838.0	7,295.0	187.7	187.3	-89.92	-89.92	225.4	-6,549.5	706.2	331.5	374.75	1.884	
14,000.0	7,295.0	13,938.0	7,295.0	190.5	190.1	-89.92	-89.92	224.9	-6,649.5	706.7	326.4	380.34	1.858	
14,100.0	7,295.0	14,038.0	7,295.0	193.3	192.9	-89.92	-89.92	224.4	-6,749.5	707.2	321.3	385.93	1.833	
14,200.0	7,295.0	14,138.0	7,295.0	196.1	195.7	-89.92	-89.92	223.9	-6,849.5	707.8	316.2	391.52	1.808	
14,300.0	7,295.0	14,238.0	7,295.0	198.8	198.5	-89.92	-89.92	223.3	-6,949.5	708.3	311.2	397.11	1.784	
14,400.0	7,295.0	14,338.0	7,295.0	201.6	201.3	-89.92	-89.92	222.8	-7,049.4	708.8	306.1	402.70	1.760	
14,443.7	7,295.0	14,380.0	7,295.0	202.9	202.5	-89.92	-89.92	222.6	-7,091.4	709.0	303.9	405.10	1.750 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD															Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-120.2	0.0	120.2	120.2	0.00	N/A					
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-120.2	0.0	120.2	120.0	0.23	529.572					
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-120.2	0.0	120.2	119.5	0.68	177.697					
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-120.2	0.0	120.2	119.1	1.13	106.760					
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-120.2	0.0	120.2	118.6	1.58	76.301 CC, ES					
500.0	500.0	501.0	501.0	1.0	1.0	162.12	-120.2	0.0	121.9	119.9	2.03	60.103					
600.0	599.8	600.8	600.8	1.2	1.2	162.81	-120.2	0.0	126.9	124.4	2.48	51.107					
700.0	699.5	700.5	700.5	1.5	1.5	163.86	-120.2	0.0	135.2	132.3	2.94	46.031					
800.0	798.7	799.7	799.7	1.7	1.7	165.12	-120.2	0.0	147.0	143.6	3.39	43.310					
900.0	897.5	898.5	898.5	2.0	1.9	166.46	-120.2	0.0	162.1	158.3	3.85	42.114					
1,000.0	995.9	996.9	996.9	2.4	2.1	167.77	-120.2	0.0	179.3	175.0	4.31	41.609					
1,100.0	1,094.4	1,095.4	1,095.4	2.7	2.3	168.86	-120.2	0.0	196.5	191.7	4.77	41.188					
1,200.0	1,192.8	1,193.8	1,193.8	3.1	2.6	169.77	-120.2	0.0	213.8	208.5	5.24	40.834 SF					
1,300.0	1,291.2	1,287.8	1,287.8	3.5	2.8	170.24	-121.2	0.9	232.0	226.3	5.67	40.879					
1,400.0	1,389.7	1,380.8	1,380.6	3.8	2.9	170.10	-124.4	3.8	252.2	246.1	6.10	41.314					
1,500.0	1,488.1	1,472.8	1,472.4	4.2	3.1	169.48	-129.8	8.8	274.4	267.9	6.54	41.944					
1,600.0	1,586.6	1,563.8	1,562.9	4.6	3.3	168.52	-137.2	15.6	298.7	291.7	7.00	42.705					
1,700.0	1,685.0	1,659.5	1,657.7	5.0	3.5	167.40	-146.5	24.0	324.4	316.9	7.47	43.424					
1,800.0	1,783.5	1,755.9	1,753.3	5.4	3.8	166.43	-155.8	32.5	350.1	342.2	7.95	44.031					
1,900.0	1,881.9	1,852.4	1,848.9	5.7	4.0	165.59	-165.1	41.0	376.0	367.5	8.44	44.532					
2,000.0	1,980.4	1,948.9	1,944.6	6.1	4.3	164.86	-174.4	49.6	401.9	392.9	8.94	44.948					
2,100.0	2,078.8	2,045.3	2,040.2	6.5	4.6	164.22	-183.7	58.1	427.8	418.4	9.44	45.298					
2,200.0	2,177.2	2,141.8	2,135.9	6.9	4.8	163.65	-193.1	66.6	453.8	443.9	9.95	45.591					
2,300.0	2,275.7	2,238.3	2,231.5	7.3	5.1	163.14	-202.4	75.1	479.9	469.4	10.47	45.844					
2,400.0	2,374.1	2,334.7	2,327.1	7.7	5.4	162.69	-211.7	83.6	505.9	495.0	10.98	46.061					
2,500.0	2,472.6	2,431.2	2,422.8	8.1	5.7	162.27	-221.0	92.2	532.0	520.5	11.50	46.248					
2,600.0	2,571.0	2,527.7	2,518.4	8.5	6.0	161.90	-230.3	100.7	558.2	546.1	12.03	46.411					
2,700.0	2,669.5	2,624.1	2,614.0	8.8	6.3	161.56	-239.7	109.2	584.3	571.7	12.55	46.554					
2,800.0	2,767.9	2,720.6	2,709.7	9.2	6.6	161.25	-249.0	117.7	610.5	597.4	13.08	46.679					
2,900.0	2,866.4	2,817.1	2,805.3	9.6	6.9	160.97	-258.3	126.2	636.6	623.0	13.61	46.790					
3,000.0	2,964.8	2,913.5	2,901.0	10.0	7.2	160.71	-267.6	134.8	662.8	648.7	14.14	46.888					
3,100.0	3,063.2	3,010.0	2,996.6	10.4	7.5	160.47	-276.9	143.3	689.0	674.4	14.67	46.976					
3,200.0	3,161.7	3,106.5	3,092.2	10.8	7.8	160.24	-286.3	151.8	715.2	700.0	15.20	47.054					
3,300.0	3,260.1	3,202.9	3,187.9	11.2	8.1	160.03	-295.6	160.3	741.5	725.7	15.73	47.125					
3,400.0	3,358.6	3,299.4	3,283.5	11.6	8.5	159.84	-304.9	168.8	767.7	751.4	16.27	47.188					
3,500.0	3,457.0	3,395.9	3,379.1	12.0	8.8	159.66	-314.2	177.4	793.9	777.1	16.80	47.246					
3,600.0	3,555.5	3,492.3	3,474.8	12.4	9.1	159.49	-323.5	185.9	820.2	802.8	17.34	47.298					
3,700.0	3,653.9	3,588.8	3,570.4	12.8	9.4	159.33	-332.9	194.4	846.4	828.5	17.88	47.345					
3,800.0	3,752.4	3,685.3	3,666.1	13.1	9.7	159.18	-342.2	202.9	872.7	854.3	18.42	47.388					
3,900.0	3,850.8	3,781.7	3,761.7	13.5	10.0	159.04	-351.5	211.5	898.9	880.0	18.95	47.428					
4,000.0	3,949.2	3,878.2	3,857.3	13.9	10.4	158.90	-360.8	220.0	925.2	905.7	19.49	47.464					
4,100.0	4,047.7	3,974.7	3,953.0	14.3	10.7	158.78	-370.1	228.5	951.5	931.4	20.03	47.497					
4,200.0	4,146.1	4,071.1	4,048.6	14.7	11.0	158.66	-379.5	237.0	977.7	957.2	20.57	47.527					



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	2.0	2.0	0.0	0.0	-180.00	-149.4	0.0	149.4	149.4	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	-180.00	-149.4	0.0	149.4	149.1	0.23	651.503		
200.0	200.0	202.0	202.0	0.3	0.3	-180.00	-149.4	0.0	149.4	148.7	0.68	220.044		
300.0	300.0	302.0	302.0	0.6	0.6	-180.00	-149.4	0.0	149.4	148.2	1.13	132.377		
400.0	400.0	402.0	402.0	0.8	0.8	-180.00	-149.4	0.0	149.4	147.8	1.58	94.663 CC, ES		
500.0	500.0	502.0	502.0	1.0	1.0	162.07	-149.4	0.0	151.0	149.0	2.03	74.392		
600.0	599.8	601.8	601.8	1.2	1.2	162.63	-149.4	0.0	156.0	153.5	2.48	62.790		
700.0	699.5	701.5	701.5	1.5	1.5	163.49	-149.4	0.0	164.4	161.4	2.94	55.904		
800.0	798.7	800.7	800.7	1.7	1.7	164.55	-149.4	0.0	176.1	172.7	3.40	51.848		
900.0	897.5	899.5	899.5	2.0	1.9	165.72	-149.4	0.0	191.2	187.4	3.85	49.622		
1,000.0	995.9	997.9	997.9	2.4	2.1	166.91	-149.4	0.0	208.3	204.0	4.31	48.298		
1,100.0	1,094.4	1,090.6	1,090.6	2.7	2.3	167.65	-150.6	0.7	226.7	221.9	4.75	47.766 SF		
1,200.0	1,192.8	1,182.3	1,182.2	3.1	2.5	167.85	-154.4	2.9	247.6	242.4	5.17	47.893		
1,300.0	1,291.2	1,272.9	1,272.5	3.5	2.7	167.64	-160.6	6.6	271.0	265.4	5.60	48.380		
1,400.0	1,389.7	1,362.4	1,361.4	3.8	2.8	167.13	-169.1	11.6	296.9	290.9	6.04	49.118		
1,500.0	1,488.1	1,455.4	1,453.6	4.2	3.1	166.43	-179.9	18.1	324.8	318.3	6.51	49.915		
1,600.0	1,586.6	1,551.3	1,548.5	4.6	3.3	165.79	-191.3	24.8	352.9	345.9	6.97	50.600		
1,700.0	1,685.0	1,647.2	1,643.5	5.0	3.6	165.26	-202.7	31.5	381.0	373.6	7.45	51.144		
1,800.0	1,783.5	1,743.1	1,738.5	5.4	3.9	164.79	-214.1	38.3	409.2	401.3	7.93	51.582		
1,900.0	1,881.9	1,839.0	1,833.5	5.7	4.1	164.39	-225.5	45.0	437.4	429.0	8.42	51.943		
2,000.0	1,980.4	1,934.9	1,928.5	6.1	4.4	164.03	-236.9	51.7	465.6	456.7	8.92	52.219		
2,100.0	2,078.8	2,030.8	2,023.5	6.5	4.7	163.72	-248.3	58.5	493.8	484.4	9.41	52.459		
2,200.0	2,177.2	2,126.7	2,118.4	6.9	5.0	163.44	-259.7	65.2	522.1	512.1	9.91	52.657		
2,300.0	2,275.7	2,222.6	2,213.4	7.3	5.3	163.18	-271.1	71.9	550.3	539.9	10.42	52.822		
2,400.0	2,374.1	2,318.5	2,308.4	7.7	5.6	162.96	-282.5	78.7	578.6	567.6	10.92	52.960		
2,500.0	2,472.6	2,414.4	2,403.4	8.1	5.9	162.75	-293.9	85.4	606.8	595.4	11.43	53.077		
2,600.0	2,571.0	2,510.3	2,498.4	8.5	6.3	162.56	-305.3	92.1	635.1	623.1	11.94	53.176		
2,700.0	2,669.5	2,606.2	2,593.4	8.8	6.6	162.39	-316.7	98.9	663.4	650.9	12.46	53.260		
2,800.0	2,767.9	2,702.1	2,688.4	9.2	6.9	162.23	-328.1	105.6	691.6	678.7	12.97	53.332		
2,900.0	2,866.4	2,798.0	2,783.3	9.6	7.2	162.09	-339.5	112.3	719.9	706.4	13.48	53.394		
3,000.0	2,964.8	2,893.9	2,878.3	10.0	7.5	161.95	-350.9	119.1	748.2	734.2	14.00	53.448		
3,100.0	3,063.2	2,989.8	2,973.3	10.4	7.9	161.83	-362.3	125.8	776.5	762.0	14.52	53.494		
3,200.0	3,161.7	3,085.7	3,068.3	10.8	8.2	161.71	-373.7	132.5	804.8	789.8	15.03	53.533		
3,300.0	3,260.1	3,181.6	3,163.3	11.2	8.5	161.60	-385.1	139.3	833.1	817.5	15.55	53.568		
3,400.0	3,358.6	3,277.5	3,258.3	11.6	8.8	161.50	-396.5	146.0	861.4	845.3	16.07	53.598		
3,500.0	3,457.0	3,373.4	3,353.2	12.0	9.2	161.41	-407.9	152.7	889.7	873.1	16.59	53.624		
3,600.0	3,555.5	3,469.3	3,448.2	12.4	9.5	161.32	-419.3	159.5	918.0	900.9	17.11	53.646		
3,700.0	3,653.9	3,565.2	3,543.2	12.8	9.8	161.24	-430.7	166.2	946.3	928.7	17.63	53.666		
3,800.0	3,752.4	3,661.1	3,638.2	13.1	10.2	161.16	-442.1	172.9	974.6	956.4	18.15	53.683		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
0.0	0.0	2.0	2.0	0.0	0.0	180.00	-178.5	0.0	178.5	178.5	0.00	N/A	
100.0	100.0	102.0	102.0	0.1	0.1	180.00	-178.5	0.0	178.5	178.3	0.23	778.625	
200.0	200.0	202.0	202.0	0.3	0.3	180.00	-178.5	0.0	178.5	177.8	0.68	262.979	
300.0	300.0	302.0	302.0	0.6	0.6	180.00	-178.5	0.0	178.5	177.4	1.13	158.207	
400.0	400.0	402.0	402.0	0.8	0.8	180.00	-178.5	0.0	178.5	176.9	1.58	113.134 CC, ES	
500.0	500.0	500.0	500.0	1.0	1.0	162.03	-178.5	0.0	180.2	178.2	2.03	88.948	
600.0	599.8	596.0	596.0	1.2	1.2	162.29	-180.0	0.6	186.7	184.3	2.45	76.158	
700.0	699.5	689.3	689.2	1.5	1.4	162.45	-184.4	2.2	199.7	196.8	2.87	69.472	
800.0	798.7	781.2	780.7	1.7	1.6	162.51	-191.4	4.8	218.9	215.6	3.31	66.101	
900.0	897.5	871.1	870.1	2.0	1.8	162.48	-201.0	8.4	244.2	240.4	3.76	64.941	
1,000.0	995.9	959.5	957.5	2.4	2.0	162.47	-213.0	12.8	274.1	269.9	4.21	65.026	
1,100.0	1,094.4	1,054.5	1,051.3	2.7	2.3	162.37	-227.1	18.1	305.2	300.6	4.68	65.261	
1,200.0	1,192.8	1,149.5	1,145.1	3.1	2.6	162.29	-241.2	23.3	336.4	331.2	5.14	65.399	
1,300.0	1,291.2	1,244.5	1,239.0	3.5	3.0	162.22	-255.3	28.6	367.5	361.9	5.62	65.408	
1,400.0	1,389.7	1,339.6	1,332.8	3.8	3.3	162.17	-269.4	33.9	398.7	392.6	6.10	65.343	
1,500.0	1,488.1	1,434.6	1,426.6	4.2	3.6	162.12	-283.5	39.1	429.8	423.2	6.59	65.252	
1,600.0	1,586.6	1,529.6	1,520.4	4.6	4.0	162.08	-297.6	44.4	461.0	453.9	7.08	65.085	
1,700.0	1,685.0	1,624.6	1,614.3	5.0	4.3	162.04	-311.7	49.6	492.1	484.6	7.58	64.943	
1,800.0	1,783.5	1,719.7	1,708.1	5.4	4.7	162.01	-325.8	54.9	523.3	515.2	8.08	64.791	
1,900.0	1,881.9	1,814.7	1,801.9	5.7	5.0	161.98	-340.0	60.2	554.4	545.9	8.58	64.638	
2,000.0	1,980.4	1,909.7	1,895.7	6.1	5.4	161.96	-354.1	65.4	585.6	576.5	9.08	64.488	
2,100.0	2,078.8	2,004.7	1,989.5	6.5	5.7	161.94	-368.2	70.7	616.7	607.2	9.59	64.343	
2,200.0	2,177.2	2,099.7	2,083.4	6.9	6.1	161.92	-382.3	75.9	647.9	637.8	10.09	64.203	
2,300.0	2,275.7	2,194.8	2,177.2	7.3	6.4	161.90	-396.4	81.2	679.1	668.5	10.60	64.068	
2,400.0	2,374.1	2,289.8	2,271.0	7.7	6.8	161.88	-410.5	86.4	710.2	699.1	11.11	63.939	
2,500.0	2,472.6	2,384.8	2,364.8	8.1	7.1	161.87	-424.6	91.7	741.4	729.7	11.62	63.817	
2,600.0	2,571.0	2,479.8	2,458.7	8.5	7.5	161.85	-438.7	97.0	772.5	760.4	12.13	63.701	
2,700.0	2,669.5	2,574.9	2,552.5	8.8	7.9	161.84	-452.8	102.2	803.7	791.0	12.64	63.590	
2,800.0	2,767.9	2,669.9	2,646.3	9.2	8.2	161.83	-467.0	107.5	834.8	821.7	13.15	63.484	
2,900.0	2,866.4	2,764.9	2,740.1	9.6	8.6	161.81	-481.1	112.7	866.0	852.3	13.66	63.384	
3,000.0	2,964.8	2,859.9	2,833.9	10.0	8.9	161.80	-495.2	118.0	897.1	882.9	14.18	63.289	
3,100.0	3,063.2	2,955.0	2,927.8	10.4	9.3	161.79	-509.3	123.2	928.3	913.6	14.69	63.198	
3,200.0	3,161.7	3,050.0	3,021.6	10.8	9.7	161.79	-523.4	128.5	959.4	944.2	15.20	63.112	
3,300.0	3,260.1	3,145.0	3,115.4	11.2	10.0	161.78	-537.5	133.8	990.6	974.9	15.72	63.029 SF	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Benjamin 1 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
11,900.0	7,295.0	7,272.3	7,271.9	132.0	12.6	87.08	1,050.4	-5,523.6	977.8	833.6	144.24	6.779	
12,000.0	7,295.0	7,273.0	7,272.6	134.8	12.6	87.40	1,050.4	-5,523.6	878.6	731.6	147.04	5.975	
12,100.0	7,295.0	7,273.7	7,273.3	137.6	12.6	87.72	1,050.4	-5,523.6	779.7	629.8	149.84	5.203	
12,200.0	7,295.0	7,274.3	7,273.9	140.3	12.6	88.03	1,050.4	-5,523.6	681.0	528.4	152.64	4.461	
12,300.0	7,295.0	7,275.0	7,274.6	143.1	12.6	88.35	1,050.4	-5,523.6	582.8	427.4	155.44	3.749	
12,400.0	7,295.0	7,275.6	7,275.2	145.9	12.6	88.67	1,050.4	-5,523.6	485.3	327.1	158.23	3.067	
12,500.0	7,295.0	7,276.3	7,275.9	148.7	12.6	88.98	1,050.4	-5,523.7	389.2	228.1	161.02	2.417	
12,600.0	7,295.0	7,276.9	7,276.6	151.5	12.6	89.30	1,050.4	-5,523.7	295.5	131.7	163.81	1.804	
12,700.0	7,295.0	7,277.6	7,277.2	154.2	12.6	89.62	1,050.4	-5,523.7	207.9	41.3	166.59	1.248 Level 2	
12,800.0	7,295.0	7,278.3	7,277.9	157.0	12.6	89.94	1,050.4	-5,523.7	138.2	-31.2	169.37	0.816 Level 1	
12,870.5	7,295.0	7,278.7	7,278.3	159.0	12.6	90.16	1,050.4	-5,523.7	118.8	-52.5	171.33	0.694 Level 1, CC, ES, SF	
12,900.0	7,295.0	7,278.9	7,278.5	159.8	12.6	90.25	1,050.4	-5,523.7	122.4	-49.7	172.15	0.711 Level 1	
13,000.0	7,295.0	7,279.6	7,279.2	162.6	12.6	90.57	1,050.4	-5,523.7	175.7	0.8	174.92	1.004 Level 2	
13,100.0	7,295.0	7,280.2	7,279.8	165.4	12.6	90.89	1,050.4	-5,523.7	258.4	80.7	177.68	1.454 Level 3	
13,200.0	7,295.0	7,280.9	7,280.5	168.2	12.6	91.21	1,050.4	-5,523.7	350.2	169.7	180.45	1.941	
13,300.0	7,295.0	7,281.6	7,281.2	170.9	12.6	91.52	1,050.4	-5,523.7	445.5	262.3	183.20	2.432	
13,400.0	7,295.0	7,282.2	7,281.8	173.7	12.6	91.84	1,050.4	-5,523.7	542.6	356.6	185.95	2.918	
13,500.0	7,295.0	7,282.9	7,282.5	176.5	12.6	92.16	1,050.4	-5,523.7	640.5	451.8	188.70	3.394	
13,600.0	7,295.0	7,283.5	7,283.1	179.3	12.6	92.48	1,050.4	-5,523.7	739.0	547.6	191.44	3.860	
13,700.0	7,295.0	7,284.2	7,283.8	182.1	12.6	92.79	1,050.4	-5,523.7	837.9	643.7	194.17	4.315	
13,800.0	7,295.0	7,284.8	7,284.5	184.9	12.6	93.11	1,050.4	-5,523.7	937.0	740.1	196.90	4.759	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Cadi 1 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 7428-UNKNOWN												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,300.0	7,295.0	7,279.0	7,279.0	60.9	145.6	90.00	1,045.7	-2,863.3	917.3	711.5	205.81	4.457	
9,400.0	7,295.0	7,279.0	7,279.0	63.6	145.6	90.00	1,045.7	-2,863.3	818.2	609.7	208.49	3.924	
9,500.0	7,295.0	7,279.0	7,279.0	66.2	145.6	90.00	1,045.7	-2,863.3	719.3	508.1	211.19	3.406	
9,600.0	7,295.0	7,279.0	7,279.0	68.9	145.6	90.00	1,045.7	-2,863.3	620.8	406.9	213.89	2.902	
9,700.0	7,295.0	7,279.0	7,279.0	71.6	145.6	90.00	1,045.7	-2,863.3	522.8	306.2	216.60	2.414	
9,800.0	7,295.0	7,279.0	7,279.0	74.3	145.6	90.00	1,045.7	-2,863.3	425.8	206.4	219.32	1.941	
9,900.0	7,295.0	7,279.0	7,279.0	77.0	145.6	90.00	1,045.7	-2,863.3	330.5	108.5	222.04	1.488	Level 3
10,000.0	7,295.0	7,279.0	7,279.0	79.7	145.6	90.00	1,045.7	-2,863.3	239.2	14.4	224.77	1.064	Level 2
10,100.0	7,295.0	7,279.0	7,279.0	82.4	145.6	90.00	1,045.7	-2,863.3	158.6	-68.9	227.51	0.697	Level 1
10,200.0	7,295.0	7,279.0	7,279.0	85.2	145.6	90.00	1,045.7	-2,863.3	114.6	-115.7	230.25	0.498	Level 1
10,210.2	7,295.0	7,279.0	7,279.0	85.4	145.6	90.00	1,045.7	-2,863.3	114.1	-116.4	230.53	0.495	Level 1, CC, ES, SF
10,300.0	7,295.0	7,279.0	7,279.0	87.9	145.6	90.00	1,045.7	-2,863.3	145.2	-87.8	232.99	0.623	Level 1
10,400.0	7,295.0	7,279.0	7,279.0	90.6	145.6	90.00	1,045.7	-2,863.3	221.5	-14.3	235.74	0.940	Level 1
10,500.0	7,295.0	7,279.0	7,279.0	93.4	145.6	90.00	1,045.7	-2,863.3	311.5	73.0	238.49	1.306	Level 3
10,600.0	7,295.0	7,279.0	7,279.0	96.1	145.6	90.00	1,045.7	-2,863.3	406.2	164.9	241.25	1.684	
10,700.0	7,295.0	7,279.0	7,279.0	98.9	145.6	90.00	1,045.7	-2,863.3	502.9	258.9	244.00	2.061	
10,800.0	7,295.0	7,279.0	7,279.0	101.6	145.6	90.00	1,045.7	-2,863.3	600.8	354.0	246.76	2.435	
10,900.0	7,295.0	7,279.0	7,279.0	104.4	145.6	90.00	1,045.7	-2,863.3	699.2	449.7	249.53	2.802	
11,000.0	7,295.0	7,279.0	7,279.0	107.1	145.6	90.00	1,045.7	-2,863.3	798.0	545.7	252.29	3.163	
11,100.0	7,295.0	7,279.0	7,279.0	109.9	145.6	90.00	1,045.7	-2,863.3	897.1	642.1	255.06	3.517	
11,200.0	7,295.0	7,279.0	7,279.0	112.6	145.6	90.00	1,045.7	-2,863.3	996.4	738.6	257.83	3.865	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Corey 31-32 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
8,300.0	7,295.0	7,280.7	7,279.1	35.6	14.0	91.39	1,183.7	-1,865.1	946.2	897.8	48.46	19.527	
8,400.0	7,295.0	7,279.9	7,278.3	37.9	14.0	91.20	1,183.7	-1,865.1	850.3	799.4	50.89	16.709	
8,500.0	7,295.0	7,279.1	7,277.5	40.4	14.0	91.01	1,183.7	-1,865.1	755.4	702.0	53.37	14.153	
8,600.0	7,295.0	7,278.2	7,276.6	42.8	14.0	90.83	1,183.7	-1,865.1	661.9	606.0	55.89	11.843	
8,700.0	7,295.0	7,277.4	7,275.8	45.3	14.0	90.64	1,183.7	-1,865.1	570.7	512.3	58.45	9.764	
8,800.0	7,295.0	7,276.6	7,275.0	47.9	14.0	90.45	1,183.7	-1,865.1	483.1	422.0	61.04	7.914	
8,900.0	7,295.0	7,275.8	7,274.2	50.4	14.0	90.26	1,183.7	-1,865.1	401.2	337.5	63.65	6.302	
9,000.0	7,295.0	7,274.9	7,273.3	53.0	14.0	90.08	1,183.7	-1,865.2	329.4	263.1	66.28	4.970	
9,100.0	7,295.0	7,274.1	7,272.5	55.6	14.0	89.89	1,183.7	-1,865.2	275.9	206.9	68.93	4.002	
9,200.0	7,295.0	7,273.3	7,271.7	58.3	14.0	89.70	1,183.7	-1,865.2	252.4	180.8	71.60	3.525	
9,212.1	7,295.0	7,273.2	7,271.6	58.6	14.0	89.68	1,183.7	-1,865.2	252.1	180.2	71.92	3.505 CC, ES, SF	
9,300.0	7,295.0	7,272.5	7,270.9	60.9	14.0	89.52	1,183.7	-1,865.2	267.0	192.7	74.27	3.595	
9,400.0	7,295.0	7,271.7	7,270.0	63.6	14.0	89.33	1,183.7	-1,865.2	314.4	237.5	76.96	4.085	
9,500.0	7,295.0	7,270.8	7,269.2	66.2	14.0	89.14	1,183.7	-1,865.2	382.7	303.0	79.66	4.804	
9,600.0	7,295.0	7,270.0	7,268.4	68.9	14.0	88.95	1,183.7	-1,865.2	462.6	380.3	82.36	5.617	
9,700.0	7,295.0	7,269.2	7,267.6	71.6	14.0	88.77	1,183.7	-1,865.2	549.2	464.1	85.08	6.455	
9,800.0	7,295.0	7,268.4	7,266.8	74.3	14.0	88.58	1,183.7	-1,865.2	639.7	551.9	87.79	7.286	
9,900.0	7,295.0	7,267.5	7,265.9	77.0	14.0	88.39	1,183.6	-1,865.2	732.6	642.1	90.52	8.094	
10,000.0	7,295.0	7,266.7	7,265.1	79.7	14.0	88.21	1,183.6	-1,865.2	827.2	734.0	93.24	8.872	
10,100.0	7,295.0	7,265.9	7,264.3	82.4	14.0	88.02	1,183.6	-1,865.2	923.0	827.0	95.98	9.617	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Floyd 1 (Existing) - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
1,800.0	1,783.5	1,767.0	1,767.0	5.4	3.6	-43.29	1,093.5	-351.7	992.6	984.3	8.30	119.573		
1,900.0	1,881.9	1,868.3	1,868.3	5.7	3.8	-44.01	1,092.9	-351.5	979.1	970.2	8.87	110.340		
2,000.0	1,980.4	1,964.8	1,964.8	6.1	4.0	-44.72	1,092.3	-351.3	965.8	956.3	9.45	102.193		
2,100.0	2,078.8	2,062.7	2,062.7	6.5	4.3	-45.47	1,091.7	-351.3	952.8	942.7	10.04	94.887		
2,200.0	2,177.2	2,160.5	2,160.5	6.9	4.5	-46.27	1,090.9	-351.8	939.9	929.3	10.63	88.383		
2,300.0	2,275.7	2,259.4	2,259.4	7.3	4.8	-47.12	1,090.0	-352.5	927.3	916.1	11.23	82.549		
2,400.0	2,374.1	2,358.3	2,358.2	7.7	5.0	-47.99	1,089.0	-353.1	914.8	903.0	11.84	77.253		
2,500.0	2,472.6	2,454.8	2,454.7	8.1	5.2	-48.85	1,088.2	-353.7	902.6	890.1	12.45	72.510		
2,600.0	2,571.0	2,550.9	2,550.8	8.5	5.5	-49.73	1,087.6	-354.3	890.8	877.8	13.05	68.272		
2,700.0	2,669.5	2,649.3	2,649.3	8.8	5.7	-50.63	1,087.3	-354.8	879.4	865.8	13.66	64.401		
2,800.0	2,767.9	2,748.5	2,748.4	9.2	5.9	-51.57	1,086.7	-355.3	868.1	853.8	14.28	60.807		
2,900.0	2,866.4	2,847.2	2,847.1	9.6	6.2	-52.53	1,086.2	-355.8	857.0	842.1	14.88	57.583		
3,000.0	2,964.8	2,946.3	2,946.2	10.0	6.4	-53.48	1,086.0	-355.7	846.1	830.6	15.47	54.684		
3,100.0	3,063.2	3,044.2	3,044.1	10.4	6.6	-54.45	1,085.6	-355.8	835.4	819.3	16.09	51.914		
3,200.0	3,161.7	3,143.2	3,143.1	10.8	6.8	-55.45	1,085.3	-355.8	825.0	808.2	16.74	49.268		
3,300.0	3,260.1	3,242.6	3,242.6	11.2	7.1	-56.49	1,084.8	-355.8	814.6	797.2	17.40	46.819		
3,400.0	3,358.6	3,337.8	3,337.8	11.6	7.3	-57.53	1,084.2	-356.2	804.7	786.6	18.04	44.607		
3,500.0	3,457.0	3,433.2	3,433.1	12.0	7.5	-58.63	1,083.7	-357.1	795.5	776.9	18.67	42.609		
3,600.0	3,555.5	3,531.9	3,531.8	12.4	7.8	-59.81	1,083.0	-358.4	786.8	767.4	19.31	40.738		
3,700.0	3,653.9	3,628.6	3,628.5	12.8	8.0	-61.02	1,082.2	-359.9	778.5	758.5	19.96	39.004		
3,800.0	3,752.4	3,727.1	3,727.0	13.1	8.2	-62.29	1,081.4	-361.6	770.6	750.0	20.62	37.380		
3,900.0	3,850.8	3,825.3	3,825.2	13.5	8.4	-63.57	1,080.5	-363.4	763.1	741.8	21.28	35.864		
4,000.0	3,949.2	3,923.8	3,923.7	13.9	8.7	-64.88	1,079.7	-365.0	756.0	734.0	21.94	34.452		
4,100.0	4,047.7	4,024.0	4,023.8	14.3	8.9	-66.23	1,078.8	-366.5	749.1	726.5	22.62	33.111		
4,200.0	4,146.1	4,122.7	4,122.5	14.7	9.2	-67.63	1,077.3	-368.3	742.5	719.2	23.31	31.846		
4,300.0	4,244.6	4,220.8	4,220.6	15.1	9.4	-69.08	1,075.5	-370.3	736.3	712.3	24.01	30.666		
4,400.0	4,343.0	4,318.5	4,318.2	15.5	9.7	-70.58	1,073.4	-372.5	730.6	705.9	24.71	29.570		
4,500.0	4,441.5	4,413.8	4,413.5	15.9	9.9	-72.06	1,071.3	-374.9	725.6	700.2	25.40	28.573		
4,600.0	4,539.9	4,508.4	4,508.0	16.3	10.1	-73.54	1,069.7	-377.5	721.6	695.5	26.07	27.675		
4,700.0	4,638.4	4,601.7	4,601.3	16.7	10.3	-74.98	1,068.7	-380.3	718.7	691.9	26.73	26.885		
4,800.0	4,736.8	4,698.2	4,697.8	17.1	10.6	-76.46	1,068.2	-383.3	716.7	689.3	27.38	26.173		
4,900.0	4,835.2	4,792.9	4,792.4	17.5	10.8	-77.91	1,067.9	-386.6	715.5	687.5	28.02	25.536		
5,000.0	4,933.7	4,890.6	4,890.0	17.8	11.0	-79.39	1,067.9	-390.1	715.2	686.6	28.66	24.958		
5,011.6	4,945.1	4,901.9	4,901.3	17.9	11.0	-79.56	1,067.9	-390.5	715.2	686.5	28.73	24.895		
5,100.0	5,032.1	4,989.2	4,988.5	18.2	11.2	-80.86	1,068.2	-393.5	715.4	686.1	29.28	24.430		
5,200.0	5,130.6	5,086.9	5,086.2	18.6	11.3	-82.29	1,068.8	-396.7	716.0	686.1	29.89	23.953		
5,300.0	5,229.0	5,189.3	5,188.5	19.0	11.5	-83.75	1,069.8	-399.6	716.9	686.4	30.49	23.511		
5,400.0	5,327.5	5,289.7	5,288.9	19.4	11.7	-85.16	1,070.8	-402.0	717.8	686.7	31.08	23.092		
5,500.0	5,425.9	5,389.8	5,388.9	19.8	11.9	-86.56	1,071.6	-404.2	718.9	687.2	31.67	22.698		
5,600.0	5,524.4	5,487.4	5,486.5	20.2	12.1	-87.92	1,072.4	-406.2	720.3	688.1	32.25	22.334		
5,700.0	5,622.8	5,591.7	5,590.9	20.6	12.3	-89.39	1,072.9	-408.3	721.9	689.1	32.86	21.969		
5,800.0	5,721.3	5,694.2	5,693.3	21.0	12.5	-90.86	1,072.8	-409.6	723.2	689.7	33.49	21.595		
5,900.0	5,819.7	5,792.5	5,791.7	21.4	12.7	-92.26	1,072.6	-410.6	724.7	690.6	34.11	21.248		
6,000.0	5,918.2	5,896.5	5,895.7	21.8	12.9	-93.71	1,072.7	-411.3	726.2	691.6	34.65	20.961		
6,100.0	6,017.0	5,998.3	5,997.4	22.0	13.0	-94.92	1,073.0	-411.2	727.4	692.4	34.97	20.798		
6,200.0	6,116.3	6,098.6	6,097.7	22.3	13.0	-95.82	1,073.4	-410.9	728.2	693.0	35.22	20.674		
6,300.0	6,216.0	6,197.5	6,196.6	22.5	13.0	-96.42	1,073.8	-410.5	728.8	693.3	35.44	20.562		
6,400.0	6,315.9	6,296.6	6,295.8	22.7	13.1	-96.73	1,074.5	-410.2	729.2	693.5	35.64	20.456		
6,500.0	6,415.9	6,397.9	6,397.0	22.8	13.1	-78.64	1,075.2	-409.8	729.1	700.2	28.90	25.228		
6,590.2	6,506.1	6,486.0	6,485.1	22.9	13.2	-78.60	1,075.7	-409.6	729.0	699.8	29.13	25.026		
6,600.0	6,515.9	6,495.5	6,494.6	22.9	13.2	-78.59	1,075.8	-409.6	729.0	699.8	29.15	25.005		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Floyd 1 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,700.0	6,615.6	6,596.6	6,595.7	23.0	13.3	11.62	1,076.2	-409.4	723.2	687.2	35.95	20.117	
6,800.0	6,713.8	6,696.2	6,695.3	23.1	13.3	12.27	1,076.5	-409.1	704.5	669.2	35.32	19.944	
6,900.0	6,808.6	6,790.2	6,789.3	23.1	13.4	13.42	1,076.8	-408.7	673.5	639.3	34.19	19.700	
7,000.0	6,898.5	6,878.0	6,877.1	23.1	13.4	15.24	1,077.1	-408.6	630.9	598.3	32.62	19.343	
7,100.0	6,982.0	6,961.1	6,960.2	23.0	13.5	18.10	1,077.5	-408.6	577.7	547.0	30.74	18.794	
7,200.0	7,057.6	7,036.5	7,035.6	23.0	13.6	22.55	1,077.8	-408.6	514.8	486.0	28.80	17.875	
7,300.0	7,124.0	7,102.4	7,101.5	23.0	13.7	29.58	1,078.4	-408.6	444.0	416.6	27.39	16.209	
7,400.0	7,180.1	7,158.8	7,157.9	23.0	13.7	40.71	1,078.9	-408.6	367.1	339.5	27.62	13.292	
7,500.0	7,224.9	7,203.8	7,203.0	23.2	13.8	56.71	1,079.4	-408.6	287.8	257.4	30.33	9.487	
7,600.0	7,257.7	7,237.1	7,236.2	23.5	13.8	74.53	1,079.6	-408.5	212.5	178.7	33.79	6.289	
7,700.0	7,277.9	7,257.4	7,256.5	24.3	13.8	86.93	1,079.7	-408.4	157.8	122.0	35.86	4.402	
7,754.9	7,285.0	7,264.3	7,263.4	24.9	13.8	89.78	1,079.8	-408.4	148.2	111.4	36.75	4.031	CC, ES, SF
7,800.0	7,288.8	7,268.0	7,267.1	25.5	13.8	91.53	1,079.8	-408.4	154.8	117.4	37.46	4.133	
7,900.0	7,294.8	7,273.6	7,272.7	27.2	13.8	90.51	1,079.8	-408.4	207.1	167.7	39.43	5.253	
8,000.0	7,295.0	7,273.4	7,272.5	29.1	13.8	89.42	1,079.8	-408.4	286.1	244.6	41.55	6.887	
8,100.0	7,295.0	7,273.0	7,272.1	31.1	13.8	89.27	1,079.8	-408.4	375.2	331.5	43.73	8.580	
8,200.0	7,295.0	7,272.6	7,271.7	33.3	13.8	89.11	1,079.8	-408.4	468.8	422.8	46.01	10.187	
8,300.0	7,295.0	7,272.2	7,271.3	35.6	13.8	88.96	1,079.8	-408.4	564.5	516.2	48.38	11.670	
8,400.0	7,295.0	7,271.8	7,270.9	37.9	13.8	88.81	1,079.8	-408.4	661.5	610.7	50.80	13.023	
8,500.0	7,295.0	7,271.4	7,270.5	40.4	13.8	88.66	1,079.8	-408.4	759.3	706.1	53.27	14.254	
8,600.0	7,295.0	7,271.0	7,270.1	42.8	13.8	88.51	1,079.8	-408.4	857.6	801.8	55.79	15.373	
8,700.0	7,295.0	7,270.7	7,269.8	45.3	13.8	88.36	1,079.8	-408.4	956.3	897.9	58.34	16.393	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design      Tarin Existing Wells Sec.32-T4N-R66W - Nicholas 1 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7493-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
13,300.0	7,295.0	7,282.0	7,282.0	170.9	145.6	90.00	1,031.9	-6,904.2	956.4	640.1	316.33	3.023		
13,400.0	7,295.0	7,282.0	7,282.0	173.7	145.6	90.00	1,031.9	-6,904.2	857.0	537.9	319.12	2.686		
13,500.0	7,295.0	7,282.0	7,282.0	176.5	145.6	90.00	1,031.9	-6,904.2	757.8	435.9	321.91	2.354		
13,600.0	7,295.0	7,282.0	7,282.0	179.3	145.6	90.00	1,031.9	-6,904.2	658.8	334.1	324.70	2.029		
13,700.0	7,295.0	7,282.0	7,282.0	182.1	145.6	90.00	1,031.9	-6,904.2	560.2	232.7	327.50	1.711		
13,800.0	7,295.0	7,282.0	7,282.0	184.9	145.6	90.00	1,031.9	-6,904.2	462.2	131.9	330.29	1.399	Level 3	
13,900.0	7,295.0	7,282.0	7,282.0	187.7	145.6	90.00	1,031.9	-6,904.2	365.2	32.1	333.08	1.096	Level 2	
14,000.0	7,295.0	7,282.0	7,282.0	190.5	145.6	90.00	1,031.9	-6,904.2	270.4	-65.4	335.88	0.805	Level 1	
14,100.0	7,295.0	7,282.0	7,282.0	193.3	145.6	90.00	1,031.9	-6,904.2	181.4	-157.3	338.67	0.536	Level 1	
14,200.0	7,295.0	7,282.0	7,282.0	196.1	145.6	90.00	1,031.9	-6,904.2	112.6	-228.9	341.47	0.330	Level 1	
14,251.1	7,295.0	7,282.0	7,282.0	197.5	145.6	90.00	1,031.9	-6,904.2	100.3	-242.6	342.90	0.293	Level 1, CC, ES, SF	
14,300.0	7,295.0	7,282.0	7,282.0	198.8	145.6	90.00	1,031.9	-6,904.2	111.6	-232.7	344.26	0.324	Level 1	
14,400.0	7,295.0	7,282.0	7,282.0	201.6	145.6	90.00	1,031.9	-6,904.2	179.5	-167.5	347.06	0.517	Level 1	
14,443.7	7,295.0	7,282.0	7,282.0	202.9	145.6	90.00	1,031.9	-6,904.2	217.1	-131.1	348.28	0.623	Level 1	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Wolfe 13-32 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
10,700.0	7,295.0	7,274.5	7,273.5	98.9	15.4	89.23	1,191.2	-4,242.3	926.3	812.4	113.88	8.134	
10,800.0	7,295.0	7,275.2	7,274.2	101.6	15.4	89.37	1,191.2	-4,242.3	830.8	714.1	116.64	7.123	
10,900.0	7,295.0	7,275.8	7,274.8	104.4	15.4	89.52	1,191.1	-4,242.3	736.5	617.1	119.40	6.168	
11,000.0	7,295.0	7,276.5	7,275.5	107.1	15.4	89.66	1,191.1	-4,242.3	643.8	521.7	122.17	5.270	
11,100.0	7,295.0	7,277.1	7,276.1	109.9	15.4	89.80	1,191.1	-4,242.3	553.8	428.9	124.93	4.433	
11,200.0	7,295.0	7,277.8	7,276.7	112.6	15.4	89.94	1,191.1	-4,242.3	467.8	340.1	127.70	3.663	
11,300.0	7,295.0	7,278.4	7,277.4	115.4	15.4	90.09	1,191.1	-4,242.3	388.6	258.1	130.46	2.979	
11,400.0	7,295.0	7,279.1	7,278.0	118.2	15.4	90.23	1,191.1	-4,242.3	321.2	188.0	133.23	2.411	
11,500.0	7,295.0	7,279.7	7,278.7	120.9	15.4	90.37	1,191.1	-4,242.3	274.4	138.4	136.00	2.018	
11,589.2	7,295.0	7,280.3	7,279.3	123.4	15.4	90.50	1,191.1	-4,242.3	259.5	121.1	138.47	1.874 CC	
11,600.0	7,295.0	7,280.4	7,279.3	123.7	15.4	90.51	1,191.1	-4,242.3	259.7	121.0	138.77	1.872 ES, SF	
11,700.0	7,295.0	7,281.0	7,280.0	126.5	15.5	90.66	1,191.1	-4,242.3	282.2	140.6	141.54	1.994	
11,800.0	7,295.0	7,281.6	7,280.6	129.2	15.5	90.80	1,191.1	-4,242.3	334.3	190.0	144.31	2.317	
11,900.0	7,295.0	7,282.3	7,281.3	132.0	15.5	90.94	1,191.1	-4,242.3	404.9	257.8	147.08	2.753	
12,000.0	7,295.0	7,282.9	7,281.9	134.8	15.5	91.08	1,191.1	-4,242.3	485.9	336.0	149.85	3.242	
12,100.0	7,295.0	7,283.6	7,282.5	137.6	15.5	91.23	1,191.1	-4,242.3	572.9	420.3	152.62	3.754	
12,200.0	7,295.0	7,284.2	7,283.2	140.3	15.5	91.37	1,191.1	-4,242.3	663.6	508.2	155.39	4.271	
12,300.0	7,295.0	7,284.9	7,283.8	143.1	15.5	91.51	1,191.1	-4,242.4	756.7	598.5	158.16	4.784	
12,400.0	7,295.0	7,285.5	7,284.5	145.9	15.5	91.65	1,191.1	-4,242.4	851.3	690.3	160.92	5.290	
12,500.0	7,295.0	7,286.2	7,285.1	148.7	15.5	91.79	1,191.1	-4,242.4	947.0	783.3	163.69	5.785	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
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<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4789.0ft (RKB - 15')

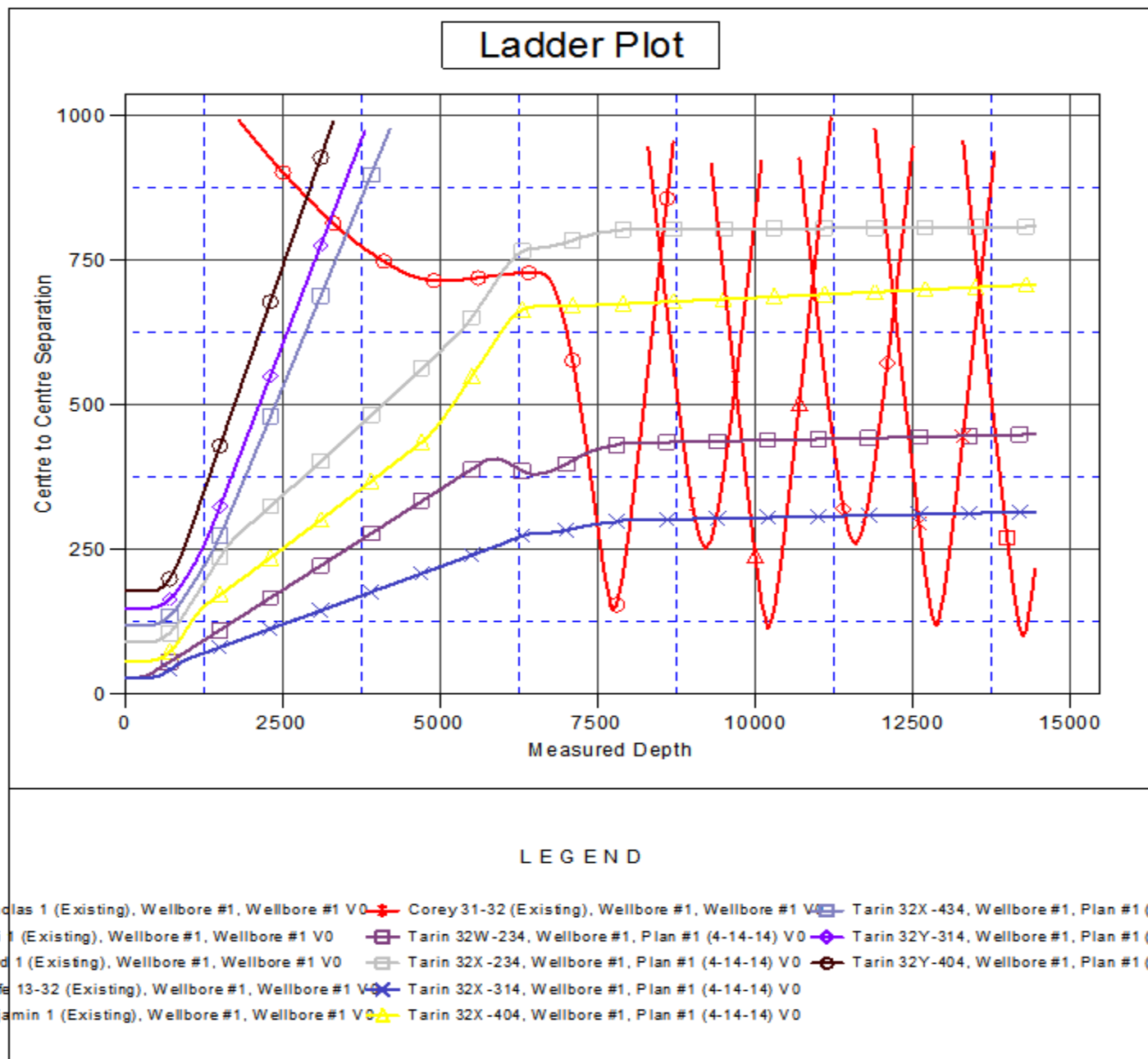
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32W-434

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4789.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32W-434

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°

